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An Evaluation of the Use of Trial Prescriptions in Community Pharmacy Practice

by

Karen W.V. Sullivan ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Health Services Administration

in

Pharmacy Administration

Department of Public Health Sciences

Edmonton, Alberta
Spring, 1996

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University of Alberta

Faculty of Graduate Studies and Research

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Dr. John Bachynsky

Dr. Karen Farris

Dr. Phil Jacobs

Date: December 21, 1995

This thesis is dedicated to DESMOND,

for all of his patience, support and understanding.

ABSTRACT

Community pharmacists and the Government of Alberta sought to determine if the implementation of a trial prescription program would produce a cost-savings to the provincial drug program by reducing waste of prescription drugs. A pilot project was designed to to evaluate the feasibility of the program and its design.

Thirty-six pharmacies participated in the six month project. Pharmacists conducted trial prescriptions based on guidelines developed by project planners. Pharmacists were paid one dispensing fee for the initial trial quantity and one fee for the balance quantity in the event that the patient tolerated the medication. Pharmacist feedback was ascertained at three points in time during the study.

A cost savings analysis ascertained that trial prescriptions resulted in a net cost to the drug program of $233.53. Pharmacist demographic variables of years in practice and practice environment were found to impact the extent to which trial prescriptions were used. Recommendations for the future of trial prescriptions were based on the conclusion that trial prescriptions offered a value-added service to seniors, but not a direct cost-saving to the drug program.

Special thanks to Larry Shipka, the Pharmacy Services Unit of Alberta Health,
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LIST OF ABBREVIATIONS AND GLOSSARY OF TERMS

A.C.A. Alberta Council on Aging

A.C.E.I. Angiotensin converting enzyme inhibitors

A.D.R. Adverse drug reaction

A.M.A. Alberta Medical Association

A.P.E.C. The Alberta Pharmacy Economics Committee, the economic and contractual negotiating branch of the A.Ph.A..

A.Ph.A. Alberta Pharmaceutical Association

A.Q.P.P. Association Quebecoise des Pharmaciens Proprietaires (The association of pharmacist-owners of Quebec)

ALBERTA BLUE CROSS A health insurance company offering extended health benefits to corporations and individuals. Blue Cross is the carrier for government sponsored drug plans, providing claim adjudication services for groups 1 and 6/66A.

ALBERTA HEALTH Refers to the branch of the provincial government of Alberta that is responsible for health care.

ALBERTA HEALTH DRUG BENEFIT LIST A list of medications that are eligible benefits for individuals covered under Blue Cross groups 1 and 66/66A. Medications listed as benefits are determined by the Expert Advisory Committee.

BLUE CROSS GROUP 1 (NON-GROUP SUBSCRIBERS) Government subsidized prescription drug benefit program available to individuals in the province of Alberta who do not have these benefits from another source. Payment of premiums is required to subscribe. Available benefits are defined by the Alberta Health Drug Benefit List.

BLUE CROSS GROUP 66/66A Government-funded prescription drug benefit program universally available to all Albertans over the age of 65 years and their dependents (group 66) and to widows and widowers over the age of 55 but not yet 65 and their dependents (group 66A). Premiums are not required and available benefits are defined by the Alberta Health Drug Benefit List.

C.C.B. Calcium channel blockers

C.Ph.A. Canadian Pharmaceutical Association

C.Ph.A. CLAIM STANDARD 3.0 .A common, standard claim format created by the C.Ph.A. to enable the timely and efficient processing of claims between the pharmacy system and the network device (dispenser and processor). The claim standard provides an "...electronic version of a universal pharmacy claim form and provides the elements to compile and report summaries and detail records for reconciliation on a daily basis".(C.Ph.A., 1993)

D.I.N. Drug identification number. The 8 digit unique identifier of a drug entity assigned by the health protection branch of Health Canada.

DRUG PROGRAM Refers to drug benefits provided by Alberta Health to Albertans with prescription drug benefits as defined by Blue Cross groups 1 and 66/66A.

D.U.E. QUARTERLY Drug utilization in the elderly quarterly is a newsletter published four times a year and distributed to physicians, pharmacists, seniors groups and other health professionals. The focus of this publication is, as the title suggests, the discussion of the utilization of medications in the elderly segment of the population.

D.U.R. Drug utilization review

H2 BLOCKERS Histamine blockers. This group of drugs is used to reduce the secretion of gastric acid and is used in the treatment disorders like gastric ulcers and reflux disorders.

L.C.A. Lower cost alternative. This refers to the therapeutically equivalent drug products that are priced at the lowest cost.

NSAIDs Non-steroidal anti-inflammatory drugs

O.T.C. Over-the-counter medications, that is, drug products not requiring a prescription by law.

P.M.A.C. Pharmaceutical Manufacturers' Association of Canada. The umbrella organization representing the innovator drug companies in Canada.

P.T.C. Pharmacologic-Therapeutic Classification of drugs as defined by the American Hospital Formulary Service.

TRIAL PRESCRIPTION A prescription dispensed in two parts- an initial quantity and a balance quantity. The splitting of the dispensing of the prescription is intended to permit the patient to try a small quantity of their first-time prescription for one of the eligible medications. The initial quantity provides the patient with the opportunity to find out if the medication is well-tolerated or not without having to purchase the entire prescription. It is intended that the net result of this process will be improved therapeutic outcomes for the patient and decreased costs associated with the unnecessary waste of prescription medications.

> **Initial quantity** Up to a seven day quantity of medication dispensed at the initiation of the trial prescription.
>
> **Balance quantity** The remaining quantity of the eligible medication, dispensed when no drug-related problem is experienced by the patient during the administration of the initial quantity.

TRIAL PRESCRIPTION PILOT PROJECT JOINT STEERING COMMITTEE- The committee of representatives of APEC, Alberta Blue Cross and Alberta Health responsible for decision-making respecting project planning and guidelines.

CHAPTER ONE

INTRODUCTION

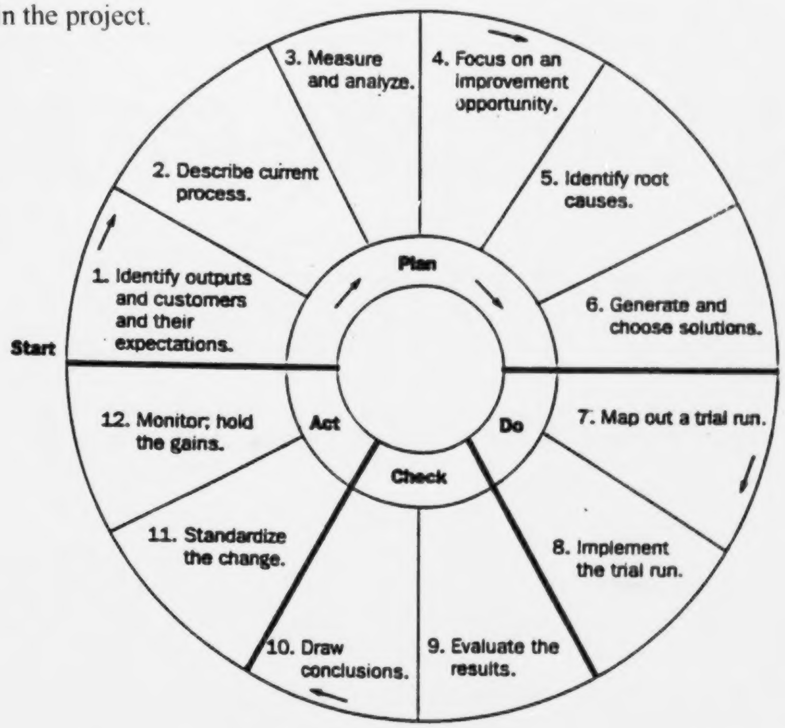
During the past two decades, the proportion of prescription drugs funded by provincial governments has steadily increased. In 1975, provincial government expenditures accounted for 26.5% of the total expenditures on prescription drugs. By 1987, drug expenditures by provincial governments had increased to 50.5% of the total expenditures on prescription drugs in Canada. (Gorecki, 1992) In Alberta, the percentage was slightly lower at 45.7%. (Alberta Health, 1994) As a result of the growing costs of providing drug coverage to enrollees of government funded plans, provincial governments are managing drug benefits more stringently than ever before. While the goal of each provincial drug program is essentially to improve accessibility by providing necessary benefits in the most cost-effective manner, increasingly, innovative means of obtaining that goal are being sought and tested.

As the number of drug products available as benefits is restricted through the use of formularies, the increase in expenditures on prescription drugs has slowed. Despite a decrease in the rate of growth of prescription drug expenditures, the total amount expended continues to increase. As a result, other aspects of the prescribing and dispensing of medications to enrollees have become the focus of increased scrutiny. The current system of one dispensing fee per prescription encourages the patient to purchase the largest quantity of medication allowable in order to minimize their copayment. Hence, a situation is created in which the patient is given disincentives to try small quantities of new prescriptions prior to receiving the full prescription. Moreover, this system in which pharmacist remuneration is contingent upon the sale of a product rewards the pharmacist for dispensing large prescription volumes and not for patient monitoring and follow-up. It has been suggested that as a result, unnecessary waste of prescription medications occurs. In order for waste to be reduced, a situation should be created in which pharmacists are given incentives to monitor the outcomes of newly initiated drug therapies and patients are given incentives to try the new therapies before purchasing the full quantity. The creation of these incentives should result in closer monitoring of patient outcomes of drug therapy and lead to the minimization of the impact of adverse drug effects.

A trial prescription program is an initiative which attempts to create such incentives by affording pharmacists an opportunity to improve the quality of patient care while decreasing the costs associated with providing that care. By enabling the patient to try a seven day supply of his or her new prescription, the pharmacist and patient are able to closely monitor new drug therapy and detect adverse drug reactions sooner. In addition, cost-savings may be realised as a result of avoiding wastage of drugs that are not tolerated by the patient. Recent experiences in the British Columbia Trial Prescription Program indicate that cost-savings result from providing a trial prescription to the patient in approximately 25% of these cases. (This figure represents the number of trial prescriptions which were not completed due to inefficacy of or intolerance to the medication.) The purpose of this study was to determine if the hypothesized cost savings and improved patient care justify the future implementation of a Trial Prescription Program by Alberta Health as a component of government sponsored drug coverage for senior citizens.

The primary focus of this study was to provide an evaluation of the Alberta Trial Prescription Pilot Project. To assess the viability of trial prescriptions in community pharmacy practice, this research focuses on the variability observed in the rate of initiation of trial prescriptions by pharmacists in the pilot study pharmacies. The relationships between pharmacist characteristics and attitudes as well as practice environment which have been identified in the literature as related to the provision of patient-oriented care and the communication of information were examined. These factors included: (1) number of years that the pharmacist has been practising, (2) pharmacist job classification, (3) average number of hours spent dispensing per week, (4) type of pharmacy, (5) pharmacy ownership, (6) prescription volume, (7) pharmacy location, (8) pharmacist attitudes, (9) patient characteristics, and (10) drug class. Additionally, a primary focus of this research was the cost-effectiveness of a trial prescription program, hence, an analysis of the costs or savings associated with such a program were assessed.

In order to evaluate trial prescriptions in community pharmacy practice, it was necessary to develop a framework from which to plan and implement a clinical pharmacy service initiative in a limited number of community pharmacies. Hence, a secondary focus of the project became to create a model from which to plan, develop, implement and evaluate this type of initiative. Based primarily on the continuous quality improvement model of plan, do, check and act (PDCA), the framework was developed cooperatively with all stakeholder groups. (Leebov, 1991) Consideration was given to the capabilities and limitations of all stakeholders throughout the project. As such, the project framework was a blend of the ideals, needs and requirements of the Alberta Pharmacy Economics Committee, Alberta Blue Cross and Alberta Health. External advice from other relevant professional and advocacy organizations was sought to enhance the process. To assess the relative strengths and weaknesses of this framework, descriptive data was sought from pharmacists, physicians, drug manufacturers and patients at various points during the project. Figure 1-1 illustrates the PDCA approach used in the project.



Start
1. Identify outputs and customers and their expectations.
2. Describe current process.
3. Measure and analyze.
4. Focus on an improvement opportunity.
5. Identify root causes.
6. Generate and choose solutions.
7. Map out a trial run.
8. Implement the trial run.
9. Evaluate the results.
10. Draw conclusions.
11. Standardize the change.
12. Monitor; hold the gains.
Plan
Do
Check
Act

Figure 1-1: Steps in the PDCA approach to making process improvements

The data analyzed in this study represent dispensing costs, drug quantities and other financial and demographic data pertaining to prescription drug claims as determined through submissions made to Alberta Blue Cross on behalf of Alberta Health by participating pharmacies. Additionally, gross prescription drug claims data for pharmacies throughout Alberta were analyzed to enable projections of potential cost-savings provincially resulting from trial prescriptions. There is support in the literature for the enhanced role of the pharmacist in monitoring drug therapy, specifically in high-risk populations as the elderly, to reduce the occurrence of preventable adverse drug reactions. Further, data from other provinces in Canada indicate that cost-savings to the system can result from this type of pharmacist intervention. It follows that the purpose of this study was to determine if justification exists for Alberta Health to consider the implementation of a Trial Prescription Program as a component of government sponsored drug coverage.

Objectives

The specific study objectives included:

1. To collaboratively plan and implement a pilot study of a trial prescription program in Alberta, based on the Plan-Do-Check-Act approach to making process improvements.

2. To evaluate the trial prescription pilot study in terms of:
    i. Pharmacist performance as the health care provider responsible for trial prescriptions through an examination of the proportion of eligible prescriptions actually initiated as trial prescriptions and the quality of documentation on trial prescriptions received.

    ii. Moderators of pharmacist performance, as determined by rates of initiating trial prescriptions, including:

a. number of years the pharmacist has been practicing
b. practice location of the pharmacist
c. pharmacy type
d. average daily prescription volume
e. pharmacist attitudes regarding patient-oriented pharmacy care
f. drug class

iii. The cost-savings obtained from the trial prescription claims data from the pilot project.

Hypotheses

The assessment of objective one was completed through descriptive data. To fulfill objective two, the following null hypotheses were tested:

H_O1. Pharmacists will initiate trial prescriptions in at least 10 percent of all eligible prescriptions.

H_O2. There are no significant differences in the frequency of initiation of trial prescriptions among pharmacists with respect to number of years in practice.

H_O3. There are no significant differences in the frequency of initiation of trial prescriptions among pharmacists with respect to practice location.

H_O4. There are no significant differences in the frequency of initiation of trial prescriptions among pharmacists with respect to the type of store the pharmacist practices in.

H_O5. There are no significant differences in the frequency of initiation of trial prescriptions among pharmacists with respect to the average daily prescription volume.

H_O6. There are no significant differences in the rate of initiation of trial prescriptions among pharmacists with respect to the pharmacist's beliefs about patient-oriented pharmacy care.

H_O7. There are no significant differences in the rate of initiation of trial prescriptions with respect to drug class.

H_O8. The provision of trial prescriptions to the target population will result in a net savings.

CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter examines the development and trends in the payment of prescription medications by provincial governments, the primary causes of the escalating costs of prescription medications, the senior populations covered by government programs, the trends for the demographics of this population, and the rates and patterns of utilisation of prescription drugs in this population. In addition, the role of the pharmacist in intervention strategies to save dollars and the ability of the pharmacist to effectively act as an educator, caregiver and liaison in the provision of pharmaceutical care is examined.

GOVERNMENT FUNDED THIRD PARTY PRESCRIPTION PAYMENT SYSTEMS

History

As the publicly funded system of health care emerged in Canada, legislation was enacted which provided for coverage of services rendered in hospitals as well as diagnostic services. While the Hospital and Diagnostic Services Act of 1957 provided coverage for the cost of medications provided to inpatients, the cost of outpatient prescription drugs was borne by the patient. Subsequent to the passage of the Hospital Insurance and Diagnostic Services Act of 1957, health care expenditures in Canada began an upward spiral that would continue through the next four decades. The Medical Care Act of 1968 extended publicly funded coverage to include those services provided by physicians outside of hospitals. Despite the extension of coverage to outpatient services provided by physicians, payment for prescription drugs outside of hospitals, however, was not included under this legislation. It was thus the responsibility of the provincial governments to determine if the funding of prescription drugs for outpatients lay within the domain of publicly administered health care.

The majority of the provinces introduced some form of publicly-funded drug program between 1972 and 1975. (Hurley, 1989) The only exceptions were the Northwest Territories, which introduced prescription drug coverage in 1979 and the Yukon Territory, which followed in 1981. Currently, all regions provide coverage for prescription drugs to seniors and recipients of social assistance, while only the four western provinces offer some form of universal coverage.(Hurley, 1989; Gorecki, 1992) Ontario, however, introduced universal catastrophic drug coverage based on need as of April 1, 1995.(L. Shipka, personal communication, 1995)

In Alberta, the origins of the prescription drug program date back to 1947, with the current Blue Cross Plan for Seniors being introduced in 1974.(Hurley, 1989) Since 1974, the scope of the publicly funded drug programs in Alberta has expanded from coverage for those individuals 65 and older to include recipients of social assistance as well as those individuals under 65 who do not have prescription drug coverage through other private or public insurance plans. The latter drug coverage is available to eligible individuals who wish to purchase coverage in the government sponsored plan. As in other regions, the Alberta Drug Program has undergone significant change during the past five years, including the introduction of a drug benefit list in 1991 and more recently, changes to the copayment formula.

Trends

In the twenty years since the inception of provincial prescription drug programs, the cost of prescription drugs has consumed an increasing proportion of the dollars spent on the provision of publicly funded health care. In 1970, drugs accounted for less than 0.5 percent of government health expenditures. By 1987, expenditures on drugs had increased to 4.01 percent of total publicly funded health care expenditures, while the proportion of resources expended on prescription drugs by the private sector decreased from 19 percent to 11.3 percent in the same period.(Gorecki, 1992) This trend shifted the proportion of total drug expenditures paid by provincial governments from 26.5 percent in 1975 to 50.5 percent in 1987.

Several factors can be identified as contributing to the increasing burden of payment for prescription drugs facing provincial drug programs. In British Columbia, the 317 per cent increase in drug expenditures experienced by the Pharmacare Program between 1981-82 and 1988-89 was attributed to four factors: (1) the cost of new drugs, (2) increased age-specific utilization rates of old drugs, (3) increased prices of old drugs, and (4) the increase in the size of the elderly population. (Anderson et al., 1993) Health and Welfare Canada statistics (1990) indicating that the annual per capita expenditure on prescription drugs in Canada doubled between 1975 and 1987, increasing from $42.07 in 1975 to $85.32 in 1987, support the British Columbia findings. Further evidence of the effect of increased age-specific utilization rates are the findings of drug utilization studies conducted in Saskatchewan in 1976 and 1989. In the 1976 study, 77.3 percent of

Saskatchewan's 102,000 people over 65 years of age had received at least one prescription during 1976, with the average number of prescriptions per senior being 12.8. (Skoll et al., 1979) Thirteen years later, 80.8 percent of Saskatchewan's individuals over 65 years of age received at least one prescription during 1989. The average number of prescriptions per senior increased to 18.4.(Quinn et al, 1992) While the percent of individuals having received at least one prescription in the preceding year remained relatively constant, a 44 percent increase in the average number of prescriptions per senior was observed. This supports the contention that the intensity of utilization of prescription drugs in the senior population has increased dramatically over the past two decades. In Alberta, the average number of prescriptions per senior in 1994 was slightly less than that found in Saskatchewan in 1989 at 17.8. (Alberta Health, 1994)

Program changes in response to rising costs

The increase in expenditures on prescription drugs during the past decade has risen disproportionately to the steady increase of 3 percent per year in the number of registrants in provincial drug programs for seniors. (Gorecki, 1992; Alberta Health, 1994) In response to the dramatic increases in the cost of providing pharmaceuticals to the senior population, provincial governments have attempted to control expenditures and decrease utilization by regulating the benefits covered. In Alberta, five strategies have been implemented, including: (1) removal of non-prescription medications as eligible benefits, (2) implementation of a drug benefit list or formulary to control the number of eligible medications, (3) adoption of a lowest cost alternative policy whereby coverage is only provided at the cost of the least expensive brand of medication when interchangeable brands are available, (4) changes to the formula for pricing prescriptions which eliminated the percentage upcharge on medications and reduced the average dispensing fee per prescription by 5 percent, and (5) changes to the patient copayment on prescriptions from 20 percent of the cost to 30 percent of the cost to a maximum of $25 per prescription. As a result of these strategies, the rate of growth in prescription drug expenditures has slowed, but not stopped. (L. Shipka, personal communication, 1994)

It is clear that challenges facing provincial government drug program managers are immense if budgetary limitations are to be achieved. It is also imperative that the impact of regulatory strategies is evaluated in terms of enrollees' health status. Strategies directed at the patient copayment portion of the prescription price are particularly sensitive to creating incentives and disincentives to drug utilization. In their assessment of the impact of cost-sharing strategies on the patient, Spitzer et al (1989) identified two key issues to be considered in the design of an equitable copayment structure. First, numerous studies have determined that cost-sharing intended to decrease demand for prescription drugs with little utility to the patient also reduces the utilization of necessary medications prescribed for serious illnesses. Second, incentives may be created to purchase large quantities of drugs at one time which could lead to waste and become counter-productive to the original goal. The cost-sharing strategy adopted by the Alberta drug program on July 1, 1994 may be particularly susceptible to volume purchasing as it has a maximum $25 copayment per prescription. The patient wishing to save money is likely to take all of the medication at once to avoid the costs of dispensing associated with multiple renewals of prescription orders.

An alternative approach to rising prescription drug costs was offered by the Nova Scotia Pharmacare Reform Working Group in their March 1994 report entitled *Quality Treatment......Needed medications at an affordable cost.* Specific areas addressed in this report include the notion of managed care involving one patient with one physician and one pharmacist, development of treatment guidelines and the development of timely, meaningful educational programs for health care providers to promote the provision of appropriate care. The overwhelming conclusion of the working group was that education and research directed at: (1) the outcomes of treatment, (2) the outcomes of changes to benefits in the pharmacare program, and (3) the utilization patterns of medications, are needed. These activities were deemed necessary to form the cornerstone of drug program policy designed to provide the most cost-effective therapy in the most cost-efficient manner for all stakeholders. The aforementioned strategies are of particular significance to high utilization groups like seniors, as will be discussed in the next section.

PHARMACEUTICALS IN THE CARE OF THE ELDERLY

Prescribing for the elderly

On average, individuals over 65 years of age use three times the number of prescriptions per year as individuals under the age of 65. (Quinn et al, 1992) This finding suggests that prescribing patterns in the elderly vary from those seen in younger age groups. Attributable partially to age, differences in the intensity and type of therapy can also be linked to the higher prevalence of chronic diseases in the elderly. (Williams, 1986) Differences in the prescribing patterns may also contribute to increased incidence of adverse drug reactions among the elderly. (Bloom et al, 1989) Clearly, the elderly possess special needs and as a result require more intense monitoring and counseling than the younger adult population.

The elderly account for between 11 to 13 percent of the population in various provinces, yet they consume between 40 to 50 percent of all drugs prescribed (Anderson et al, 1993; Quinn et al, 1992; Aoki et al, 1983; Alberta Blue Cross, 1994). The literature also reveals that individuals over 65 years of age, on average, consume from 4 to 8 different drugs concurrently. (Nolan and O'Malley, 1988; Williams et al, 1986; Quinn et al, 1992) Additionally, as individuals over 65 get older, the number of different therapeutic classes from which an individual is prescribed medications increases from 1.6 classes in those aged 65 to 69 to 2.6 classes per patient in those over 84. (Nolan and O'Malley, 1988) This trend of increased intensity of drug therapy as the elderly become even older is also observable in the gross numbers of prescriptions per year as demonstrated in studies conducted in British Columbia, Saskatchewan and Manitoba. (Aoki et al, 1983; Quinn et al, 1992; Anderson et al, 1993) This evidence of increased drug use in the elderly becomes a concern when examined in conjunction with the incidence of adverse drug reactions in the elderly.

Between 70 to 80 percent of adverse drug reactions are dose related. (Siedl et al, 1966; Hurwitz, 1969) The final report of the Lowy Commission for the Pharmaceutical Inquiry of Ontario noted that "...the Ontario Medical Association has shown that 33 percent of all adverse drug reactions are in the over 60 age group, with 20 percent in the over 70 age group". The original study from which these statistics were derived also revealed that 41 percent of all admissions to hospital resulting from adverse drug reactions are for individuals over 60 years of age. (Bloom et al, 1989) Moreover, it was stated that "... eighty percent of all adverse drug reactions are due to the extension of known pharmacological properties and are avoidable...". Because the elderly are smaller than younger adults and have a decreased percentage of lean body mass, without the appropriate dosage adjustment and careful monitoring at the initiation of drug therapy, the elderly are placed at increased risk of an adverse drug reaction.

The types of drugs that are most likely to cause an adverse drug reaction are often those drugs most frequently prescribed for seniors. In one study, the drugs identified as most likely to lead to an adverse drug reaction were antiarrythmics, antihypertensives, anticoagulants and insulin. (Nolan and O'Malley, 1988) Another study found that diuretics, antiarrythmics, non-steroidal anti-inflammatories and cimetidine were the most common offenders in drug interactions observed in the elderly.(Kurfees and Dotson, 1987) In concurrence with the two studies listed above, Williams and Rush (1986) identified eight categories of drugs as the main causes of adverse drug reactions in the elderly. Included in this list were cardiovascular drugs, anticoagulants, antirheumatics (including non-steroidal anti-inflammatories), psychotropics and corticosteroids. Also listed in the category titled *other* were cimetidine and ranitidine. Based on the evidence presented, it appears that a more cost-effective means of maintaining the health status of the elderly members of society must be sought. Not only is it important that the optimal outcomes of drug therapy in the elderly be attained, but in times of scarce resources, it is also desirable that available dollars are expended in a manner that maximizes health status rather than diminishes it.

Community pharmacy programs for the elderly

While the literature reveals that the elderly require increased monitoring of pharmacotherapy, little has been done to ensure that these needs are met. The mandates of the majority of government sponsored drug benefit programs for the elderly do not extend beyond the subsidization of the cost of the medications. (Gorecki, 1992) All ten provinces and two territories provide subsidized drug coverage for residents over 65 years of age, while only three provinces have implemented programs aimed at improving the level of patient monitoring by pharmacists.

In Quebec, a program entitled L'Opinion Pharmaceutique provides reimbursement for pharmacists offering written advice to physicians regarding a patient's pharmacotherapy. In addition, pharmacists are also reimbursed for refusals to dispense medications which they deem to be inappropriate or potentially harmful to the patient. Drug classes specifically targeted in this program include benzodiazapines, calcium channel blockers, non-steroidal anti-inflammatories and angiotensin converting enzyme inhibitors. All of these drugs are high volume drugs for those over the age of 65 years. British Columbia and Nova Scotia have implemented trial prescription programs in their respective jurisdictions. These programs are aimed at decreasing waste of first-time prescriptions of medications that are not tolerated by the patient. Additionally, it is intended to permit increased monitoring of the patient during the initiation period of a new drug regimen. While both programs provide coverage for seniors as well as those individuals with government coverage for the financially indigent, the limited drug lists target medications which are prescribed frequently for seniors.

CLINICAL PHARMACY CARE

Components of clinical pharmacy care

Clinical pharmacy care is a developing area in the provision of drug therapy. Often used interchangeably with the term *pharmaceutical* care, clinical pharmacy care strives to accomplish three things: (1) identify potential and actual drug-related problems, (2) resolve the actual drug-related problems, and (3) prevent potential drug-related problems. (Hepler, C.D. and Strand, L., 1989) In fulfilling a more clinical role, the community pharmacist is required to (1) collect patient information, (2) provide prospective drug utilization review (DUR), (3) counsel patients, and (4) consult physicians. (Office of Inspector General, 1990)

The collection of patient information is the initial step for the pharmacist in providing clinical pharmacy care. This information can range from the most basic information about the patient's age and allergies to a more comprehensive collection of data regarding the patient's previous and current prescription medications, previous and current over-the-counter medications, allergies and chronic conditions, lab test results, previous and current diagnoses, and other treatment modalities received. This information forms the basis from which the pharmacist will assess the patient's requirements for clinical pharmacy care. The second component of clinical pharmacy care is termed prospective drug utilization review (DUR). In this phase, the pharmacist assesses the appropriateness of the indicated drug therapy for a specific patient. The primary focus of prospective DUR is to ensure that potential adverse drug reactions are prevented and that actual drug-related problems are remedied. Even in its most basic form, the patient-specific prospective DUR completed by the pharmacist at the time of dispensing is an invaluable service that results in potential savings of many thousands of dollars to patients and the health care system. The third component of clinical pharmacy care, patient counselling, is likely the most publicly recognized component of clinical pharmacy care. In its most rudimentary form, patient counselling consists of the provision of basic information regarding the dosage and route of administration of the prescribed medication to the patient by the pharmacist. When provided as a more comprehensive service, the pharmacist-patient interaction may continue beyond the initial contact at the time of dispensing to include follow-up counselling and monitoring. This area is particularly relevant to a trial prescription program as the detection of adverse drug reactions or lack of therapeutic efficacy during the seven day trial period necessitates that the pharmacist conducts patient follow-up. Physician consultation is the final area of clinical pharmacy care and easily the most under-utilized component. Much of the physician consultation currently occurring regularly between community pharmacists and physicians relates to obtaining authorization to dispense a prescription or to discuss prescribing issues such as dosage, and therapeutic duplication or questionable indication for use.

With the focus of the central paradigm of pharmacy practice continuing to shift to methods for providing pharmaceutical care in community pharmacy practice, there is an increasing need for re-engineering the currently accepted role of the pharmacist in the provision of care. This need has driven study into the current practice standards of community pharmacists. A primary focus of these studies has been the ability of the community pharmacist to communicate with, and counsel, the patient as well as the ability of the pharmacist to communicate and interact with prescribers, as will be discussed in the following section.

The role of the pharmacist in clinical pharmacy services

The report entitled *The Clinical Role of the Community Pharmacist* indicates that the value of clinical pharmacy services comes in the form of improved health care, increased patient compliance and decreased health care costs that are associated with mismedication.(Office of Inspector General, 1990) In concurrence with the Inspector General's report, Raisch (1992) noted that because the pharmacist is often the last healthcare professional seen by a patient in a given episode of care, the pharmacist has the opportunity to act as the "...final monitor of the appropriateness of drug prescribing and to have some impact on the quality of care". In doing so, it is intended that the pharmacist will accomplish two things: (1) improve the quality of care provided to the patient by ensuring the appropriateness of care, and (2) effect cost savings to the healthcare system by averting potential adverse outcomes of inappropriately prescribed therapy.

Pharmacists' pivotal function in the fulfillment of a role in clinical pharmacy is the interaction with patients. The extent to which pharmacists interact with patients to ensure appropriate medication use may impact the desired outcomes of clinical pharmacy services. Several studies have sought to quantify the amount and quality of these interactions, (Watkins et al, 1976; Dickson et al, 1975; Kirking, 1984; Laurier et al, 1989; Koecheler et al, 1990) while others have attempted to determine what characteristics differentiate pharmacists providing high quality and large quantities of counselling from those who do not. (Watkins et al, 1976; Dickson et al, 1975; Kirking et al, 1984; Laurier et al, 1989) While pharmacists participating in these studies believed that a substantial amount of patient counselling was necessary and desirable, the actual amount of counselling of a high quality occurring fell short of expectations. Numerous barriers contributing to this shortfall were cited: (1) the practice environment of the pharmacist, (2) the gender of the pharmacist, (3) the number of years since licensure, (4) pharmacy location, (5) pharmacy staffing arrangement, (6) job title, and (7) pharmacist attitudes and beliefs. There was little agreement among these studies with respect to the nature of the effect of the aforementioned variables.

In addition to communications with patients, interactions with prescribers are integral to the clinical pharmacy role of pharmacists. Successful communications with prescribers not only enables pharmacists to ensure the appropriateness of therapy, but is critical to effect cost-savings in the health care system. The pharmacist can directly impact the medication-taking habits of patients, although the final decision of which medication will be prescribed lies with the physician. This process underscores the significance of the pharmacist-prescriber interaction, however, several barriers impair the degree to which these communications occur. Kimberlin (1989) identified three categories of barriers: (1) the environmental barrier, that is different physical locations, (2) the hesitancy of pharmacists to communicate with other health professionals, and (3) struggles for power and autonomy.

Although several barriers may impact the ability of pharmacists to perform clinical pharmacy services, pharmacists can play a valuable role in improving the quality of patient care, assessing the appropriateness of pharmacotherapy as well as detect and prevent adverse drug reactions at a cost-savings to the patient and the payer. In the current environment of restraint, government-sponsored third party drug plans may potentially enhance the benefits received by patients, save dollars and stimulate change in the practice of community pharmacy. As will be discussed in the following section, this is the philosophy being adopted by government-sponsored third party drug plans in a number of provinces in Canada.

An overview of community-based clinical pharmacy initiatives in Canada

L'Opinion Pharmaceutique

The most extensive program of pharmacist intervention currently in Canada is the L'Opinion Pharmaceutique program initiated by the Quebec Government (RAMQ). (CommuniMed, 1994) Starting in 1973 with payment for pharmacist refusals to fill prescriptions deemed to be inappropriate, the program has gradually expanded to include payment for pharmacist opinions directed at the prescriber. When necessary, the pharmacist is required to submit a written letter to the physician outlining a problem in one of the following areas:

1. When intervention is required in antihypertensive therapy due to non-compliance. (under-use or over-use)

2. For the provision of a withdrawal program after long term use of benzodiazapines.

3. For the provision of a detailed patient profile to the physician when the patient is using at least 8 different medications.

4. When a recommendation is being made to modify or interrupt a prescribed treatment due to allergy, side-effects, interactions, lack of efficacy or contraindications due to a disease state or condition.

Payment for pharmacist opinions are $15.45 per opinion, just over twice the dispensing fee of $7.00.

For the refusal to fill component of the program, pharmacists are remunerated at the same rate as the dispensing fee ($7.00) for refusing to fill a prescription based on the following thirteen criteria: (1) dangerously high dosage, (2) falsification of a valid prescription, (3) irrational choice of product, (4) irrational duration of treatment, (5) irrational quantity, (6) overuse, (7) prior allergy, (8) prior failure to treatment, (9) prior intolerance, (10) product has no indication for the problem, (11) significant potential interaction, (12) sub-therapeutic dosage, and (13) therapeutic duplication. Billing for refusals and opinions is facilitated electronically along with other RAMQ prescription claims. During the first nine months of the electronic billing process, 6405 refusals and 4182 opinions were billed to the program.

Despite the apparent current success of the program, problems plagued L'Opinion Pharmaceutique throughout the 20 years since its inception. The initial manual billing process of the program was cumbersome and severely limited the widespread use of the program. Prior to automation in 1993, utilization was limited to a core group of 30 pharmacies province-wide, with billings for refusals totaling approximately 500 per year and opinions at 400 per year. Moreover, some pharmacists abused the program, billing for refusals or opinions that were inappropriate or never given. Since the program has been automated and the letter writing process streamlined, 50 percent of the province's 1450 pharmacies have participated in the program. Funding for the additional fees is facilitated by a fund created through the retention of 1 percent of all dispensing fees paid by RAMQ throughout the province. As of 1994, RAMQ and the Association of Quebec Pharmacist Owners (AQPP) had set objectives for the expansion of the program to include trial prescriptions, compliance calendars, as well as an expanded list of medications for opinions regarding non-compliance. While the operations of the program have been smoothed out, extensive evaluation regarding patient outcome measures has not been completed.

The British Columbia Trial Prescription Program

Pharmacare, the government-sponsored drug plan in British Columbia, has been exploring the provision of trial prescriptions for first time prescriptions of medications for chronic conditions in an effort to reduce drug expenditures due to waste and to avert potential adverse drug reactions. A pilot study was initially implemented in February of 1993. Eight medications were eligible for trial prescriptions. Patients eligible for the program included seniors and social assistance recipients. Prescription eligibility was based on four criteria: (1) the prescription must be a new drug order, (2) the total prescription must be for a quantity greater than three weeks, (3) the trial quantity should be limited to a 7 to 10 day supply, and (4) the balance of the prescription could not be dispensed until 3 days into the trial. Payment for trial prescriptions enabled the pharmacist to collect a full fee for the trial and balance prescriptions, with the patient receiving the trial quantity at no cost. The patient was, however, responsible for the usual copayment on the balance of the prescription. Transferability of trial and balance prescriptions between pharmacies was permitted. Billing was electronic with the requirement of completion of a supplementary form to be submitted to Pharmacare to permit retrospective analysis of cost-savings.

Results of the pilot project indicated that 1591 trial prescriptions were initiated at 230 of a possible 650 eligible pharmacies. Of these trial prescriptions, only 909 were completed and usable for analysis. A cost-savings analysis of the three month pilot project conducted by the British Columbia Pharmacy Association indicated that a net saving of $1684.97 was obtained on the 227 trial prescriptions not completed. This was calculated as $7492.69 in drug costs saved less $5807.72 spent on additional fees. The 227 incomplete trial prescriptions represented 25 percent of the 909 complete and usable trial prescription claims submitted. No analysis of the rate of initiation of trial prescriptions from the gross number of eligible prescriptions was conducted. Of note are the problems experienced in obtaining complete reporting from participating pharmacists. Forty-three per cent of all claims submitted were lost to follow-up. Moreover, numerous assumptions made in the analysis of claim data have contributed to an over-estimate of the rate of incompletion of trial prescriptions and invariably the potential cost-savings. The outcomes of all 682 trial prescriptions lost to follow up were assumed to be intolerance of the medication, which yielded estimates of the incompletion rate as high as 50 percent. Another questionable component of the methodology used in the projection of future cost-savings is the use of IMS data for the percentage of prescriptions for each drug that are new. This data provides an estimate of the number of new prescriptions in the total population. In using this data as a predictor of the number of new prescriptions, the following must be assumed: (1) physician samples were not received prior to the receipt of a prescription,

(2) patients were not stabilized on medications while in the hospital prior to having prescriptions filled, (3) medications were not received for a previous episode of care, (4) patients have not had prescriptions filled previously at different pharmacies, and (5) every prescription flagged as new is a first-time prescription. Without adjustment for these factors, the percentage of prescriptions estimated to qualify as trial prescriptions is arguably higher than what the actual numbers would be. Finally, estimates were based on the assumptions that all eligible prescriptions in all pharmacies would be initiated as a trial prescription. However, the pilot project indicates that actual pharmacy participation rates and trial prescription initiation rates were substantially lower than one hundred percent.

Based on the results from the pilot project, British Columbia recently expanded the eligible medications for trial prescriptions from eight to twenty-six, effective January 2, 1995. Efforts have also been made to streamline the process for conducting trial prescriptions as well as to promote the program more vigorously to the public.

The Nova Scotia Trial Prescription Program

The Nova Scotia pilot project commenced in December of 1994 with a list of eleven eligible medications. Like the British Columbia pilot project, enrollees on government-sponsored drug plans for seniors and social services recipients were eligible for the program. Claims were submitted electronically, with no supplemental forms for outcome data collection. The method of payment for trial prescriptions was one full fee for the pharmacist for the initial quantity and half of the fee for the balance. The patient was responsible for the usual and customary copayment of twenty percent for both prescriptions.

In an interview on May 19, 1994, a representative of Maritime Medical indicated that the methodology for the evaluation had not been finalized. At that time, it was indicated that one possible method of evaluation being examined was cluster sampling of pharmacies submitting claims for incomplete trial prescriptions to attempt to ascertain some of the savings obtained in the project. As of March 1995, the evaluation of data from the pilot project was still in progress. Several inquiries have been unable to yield any preliminary data from the project. As a result, no presentation of the data received from the project is available.

THE ALBERTA TRIAL PRESCRIPTION PROJECT

The four components of clinical pharmacy care as listed in the U.S. Inspector General's report, collection of patient information, prospective drug utilization review, patient counselling and physician consultation, are present to a high degree in the trial prescription process. To determine the utility of trial prescriptions as a clinical pharmacy initiative, the report "Pharmaceutical Care: The Future for Community Pharmacy" posed four questions which should be asked prior to the recommendation of additional tasks for pharmacists.(British National Health Service, 1992) These questions are as follows: (1) Can pharmacists do this better than others?, (2) Will it improve the pattern of health care?, (3) Will it provide a better service for patients?, and (4) Will it represent better value for money?. Ideally, the trial prescription process should yield a positive response to all four questions.

Based on the strategic placement of pharmacists at the interface between prescribers and patients as well as the specialized training of pharmacists, pharmacists are better equipped to conduct and document the outcomes of trial prescriptions than any other provider. Second, the results obtained in other jurisdictions listed above indicate that trial prescriptions have the potential to improve the pattern of health care by averting potential adverse drug reactions and ensuring that necessary therapy modifications occur. Third, it can be logically assumed that by improving the pattern of health care and avoiding additional costs due to wasted medication, the patient will be provided with better service. Finally, operating with a direct net cost-savings for the provincial drug program as well as an indirect cost-savings to other areas of the health care sector, trial prescriptions can ideally represent better value for money. Trial prescriptions yielded positive responses to the previously mentioned questions and were deemed meritorious of recommendation for pursual as an additional task for pharmacists to perform. The framework for the Alberta pilot project was based largely upon the projects conducted in British Columbia and Nova Scotia. Every attempt was made to improve upon the short-comings discovered in the other projects, while building on the strong points. Further details of the methods used in the planning, implementation and evaluation of this project are detailed in chapter three.

CHAPTER THREE

METHODS

PROJECT PLANNING

Planning of the Alberta Trial Prescription Pilot Project began in March of 1994. In accordance with study objective one, a pilot project steering committee was created in May and consisted of 2 representatives from the Pharmacy Services Unit of Alberta Health, 3 representatives from the Alberta Pharmacy Economics Committee of the Alberta Pharmaceutical Association and 2 representatives from Alberta Blue Cross. The mandate of the steering committee was to develop a methodological framework and devise an implementation strategy for the pilot project. The Alberta Trial Prescription Pilot Project Steering Committee met six times between May and July, 1994. A summary of the methodological framework developed for and subsequently used in the project can be found in Appendix 1.

To provide guidelines for pharmacists in the initial stages of trial prescription usage, criteria for eligibility of prescriptions were developed. In addition, a limited list of eligible medications consisting of those most frequently prescribed for seniors and those identified as the most problematic for side effects in this age group was formulated. An overview of the selection process for eligible medications and development of project guidelines follows.

Pilot drug selection

A limited number of drugs were selected for piloting the project which met specific criteria agreed upon by the A.Ph.A. and Alberta Health. Limiting the number of medications was assumed to provide consistency in data collection and meaningful comparisons. Guidelines used in Nova Scotia provided a framework to begin the project - expensive, high volume, high incidence of side effects and used for chronic conditions. Thus, the baseline eligibility criteria for drugs to be included in the trial prescription pilot study were identified as follows:

i. Expensive- determined as an average drug cost per Group 66 prescription claim of $35.00 for the innovator brand.

ii. High volume- cardiac drugs, non-steroidal anti-inflammatory agents and miscellaneous GI drugs accounted for 32.15 percent of all Group 66 prescriptions in 1993. The pharmacological categories eligible for the trial prescription program pilot study included angiotensin converting enzyme inhibitors (ACEIs), calcium channel blockers (CCBs), non-steroidal anti-inflammatory drugs (NSAIDs), and histamine (H_2) blockers.

iii. High incidence of side effects- the four drug classes selected have between 10 to 30 expected side effects with at least 5 side effects occurring in greater than 1 percent of all users and at least 2 side effects occurring in greater than 3 percent of all users. (USPDI, 1994)

iv. Are indicated for chronic conditions or long term use.

All solid, oral dosage forms of the eligible drugs listed as benefits in the Alberta Health Drug Benefit List were included in the study to ensure completeness of data collection. It was also felt that the inclusion of all solid, oral dosage forms of the eligible drugs would enable pharmacists to more readily identify eligible prescriptions. Twenty-two drugs were selected from 4 classes of drugs. (ACEIs, CCBs, NSAIDs and H_2 Blockers). Due to changes in the Alberta Drug Benefit List that occurred October 1, 1994, three additional drugs were added to the eligible medications. A complete listing of the eligible medications can be found in Appendix 2.

Prescription eligibility

The decision of whether or to use the trial prescription process in the initial dispensing of a medication resided with the pharmacist and the patient. It was necessary for the pharmacist to review the patient's medical history prior to the initiation of the trial prescription to determine the likelihood of a drug-related problem occurring in the individual patient. To foster open communications between physicians and pharmacists, pharmacists were encouraged to consult with prescribing physicians at the initiation of a trial prescription and required to consult with prescribing physicians at the completion of the trial in the event of a problem with the prescribed therapy.

The prescriptions eligible to be a trial prescription were required to meet the following criteria:

i. From the list of eligible drugs.

ii. A new drug order, where a medication, strength of a medication or brand of a medication had not been received prior to the trial, as indicated by the patient.

iii. Total prescription quantity equal to or greater than a 21 day supply.

iv. Initial quantity dispensed for the trial not exceed a 7 day supply.

v. Balance of the prescription was not to be dispensed until the fourth day after the trial prescription had been dispensed.

Method of payment

The experiences of other jurisdictions were integral to the development of the framework for this study. Due to the difficulties experienced in British Columbia with respect to data collection, it was decided to conduct a pilot project on a smaller, more manageable scale to enable greater responsiveness to any problems that might arise. Additionally, extensive modeling of fee structures was conducted to ensure that a payment formula beneficial to patients, pharmacists and the drug program was used. The smaller scale of the pilot project, however, made electronic submission of claims unpractical. As a result, pharmacists were required to submit claims for trial prescriptions on a manual claim form. The potential of the more time-consuming manual claim forms to deter pharmacists from initiating trial prescriptions was recognized, but this process was a viable alternative to collection the necessary data. Supplementary information regarding outcomes and drug costs saved on incomplete trial prescriptions was incorporated onto the claim form, thereby limiting the number of forms required to be completed by the pharmacist to one.

When modeling potential fee structures for the project, the primary objective was to design a system of remuneration that was equitable to the patient, the pharmacist and the third-party payer. Moreover, to avoid biased results and to obtain an accurate picture of the feasibility of the trial prescription program, it was felt that the method of reimbursement utilized in the pilot should be reflective of what the actual formula for reimbursement would be upon implementation of the program. Providing additional fees during the pilot may have affected the actual participation and quality of work in the pilot project and could lead to unrealistic goals and expectations for the program upon full-scale implementation. It is for these reasons that the following option for payment was used in the pilot study:

i. The trial prescription was billed with the customary fee to a maximum of $9.70, $14.70, etc. plus the Drug Benefit List cost of the medication. The patient was responsible for a copay of thirty percent of the total prescription cost to a maximum of $25.00, as per the current Alberta Health contract with Alberta pharmacies.

ii. The balance of the prescription was billed in the usual manner, according to the current Alberta Blue Cross contract. The customary fee plus cost was billed by the pharmacy, with the patient responsible for the difference between the trial prescription copay and the copay if the entire prescription had been filled.

This method of payment resulted in no additional cost to the patient if the trial and balance were both dispensed. It resulted in a saving to the patient if the trial prescription was not completed. An incentive was thus provided to the patient to have their prescription dispensed as a trial prescription. The pharmacist was permitted to bill for two fees and was thereby compensated for the additional work required to dispense a trial prescription. Alberta Health benefited from this method of payment in two ways. Despite having to pay a second fee on completed trial prescriptions, Alberta Health should have realized net savings due to drug costs saved in incomplete trial prescriptions. The patient remained responsible for thirty percent of the initial trial prescription, which reduced the financial responsibility of Alberta Health. Finally, consistency was retained with the thirty percent to a maximum of $25.00 patient copay policy implemented July 1, 1994.

PROJECT IMPLEMENTATION

Site selection and recruitment

The Red Deer region was selected for the pilot study as it had a proportion of the population over 65 years of age similar to that of the entire province, offered 37 pharmacies from which to select sites, which included chain pharmacies, independent pharmacies and dispensaries, and had a sufficiently high volume of Group 66/66a prescriptions processed by Blue Cross.

Site recruitment commenced in May of 1994 and was initiated through a letter inviting all pharmacies in Red Deer, Lacombe, Stettler, Ponoka, Innisfail, Olds and Didsbury to participate. This letter was followed with a presentation of the proposed project to pharmacists at a meeting of the Central Alberta Society of Pharmacists. Follow-up phone calls to all pharmacies in the proposed pilot site areas were made the following week to obtain a commitment from pharmacies to participate in the six month project All pharmacies willing to collect the necessary data and committed to remain in the pilot until its completion were accepted as study sites. The initial projection was to obtain a 30 percent participation rate or ten pharmacies. A participation rate of 89 percent was obtained as 36 of 40 pharmacies agreed to participate in the study, including pharmacies in Sundre and Sylvan Lake which were not formally invited to participate, but asked to be study sites. Sundre and Sylvan Lake were, however, in the geographical area in which the study was conducted.

Pharmacist support

A manual was developed for all participant sites to provide pharmacists with a primary support reference. This manual included a brief explanation of what a trial prescription was, the rationale behind the pilot and the role of the pharmacist in the pilot study. The manual also explained how the trial prescription process worked, who was eligible, which drugs were eligible and what kinds of prescriptions were eligible to be trial prescriptions. Further, the data pharmacists were required to collect was outlined as well as why the data were required and what would be done with the data. The regulations, requirements and method of remuneration for the pilot study were also explained. Appendices contained side effect profiles of the eligible medications, samples of required forms and summary lists of pertinent rules, regulations and schedules. Other support materials developed for pharmacists included posters, patient reminder cards, pads of tear-off information sheets, a laminated trial prescription process check-list and a summary chart of common side effects in the eligible medications. All materials and an explanation of project details were presented to pharmacists during site visits in July of 1994. Publicity of the project within the participant communities was left to the discretion of the pharmacists in those communities.

Site visits were conducted from July 18, 1994 to July 29, 1994. During visits, approximately 30 minutes was spent reviewing the project requirements and methodology with pharmacists at each site. At the conclusion of each visit, a package containing a reference manual, patient information sheets, posters, refusal summary forms, pre-addressed envelopes for claim submissions and a pharmacist perception pre-survey was left at the site. Trial prescription claim forms and patient reminder cards were couriered to each site during the last week of July.

Communication

As the impact of the project extended beyond the participant pharmacies, it was necessary to provide other affected parties with information regarding the project. Contact with physicians was initiated through personal contact with the Alberta Medical Association and the College of Physicians and Surgeons of Alberta. Subsequent to review by the Alberta Medical Association, an information letter was sent to all physicians practicing in the project communities prior to the commencement of the project. This letter detailed what the trial prescription program was, who it was intended for and which prescriptions were eligible for the trial. The emphasis of the letter was the cooperative nature of the program. An information session was held for representatives of pharmaceutical manufacturers to provide information respecting the project and to ascertain comments and suggestions regarding its set-up. Information packages about the project were mailed to the regulatory affairs branches of all drug manufacturers with products included on the list of eligible products. The project commenced on August 2, 1994.

PROJECT FRAMEWORK ASSESSMENT

Feedback was sought from project participants and relevant stakeholder groups during and subsequent to the pilot project to enable the ongoing assessment of the project methodology. As the desired input was of a qualitative and subjective nature, interviews and discussion groups were the methods used to obtain this data. Pharmacists were asked for feedback on an ongoing basis during the project. Discussion groups were conducted with other stakeholders after the project concluded.

Participant interviews

Participant pharmacists were interviewed at three points during the project. Informal interviews were conducted at the initial site visits for project orientation. At this time, demographic information regarding the pharmacy and the pharmacists practicing therein was collected. This information was used in the evaluation of objective two and will be discussed later in this chapter.

The first series of formal interviews was conducted by telephone mid-way through the pilot project, during the last week of October, 1994. Letters were sent to all pharmacies at the beginning of October to inform pharmacists that one pharmacist at each site would be contacted during the final week of October for a brief ten to fifteen minute phone interview. The overall objective of these interviews was to identify deficiencies in the program and to provide a basis from which to remedy any identified problem. The specific objectives included: (1) ascertain the opinions of pharmacists with respect to the implementation, methodology and available support services of the trial prescription pilot project, (2) determine the level of acceptability of the project methodology to participating pharmacists, and (3) ascertain pharmacists' perceptions of the opinions and response of patients and physicians.

The survey was conducted by the project manager via telephone and was approximately ten minutes in duration. It consisted of ten question areas, each broken into two or more individual questions. The ten question areas included: (1) completion of any trial prescriptions, (2) patient response, (3) physician response, (4) demands on pharmacists' time, (5) method of payment, (6) eligible drugs, (7) prescription eligibility criteria, (8) communications, (9) forms and documentation, and (10) overall satisfaction. Questions asked related directly to the project methods and materials. Prior to commencing the survey, the pharmacist was asked if any trial prescriptions had been conducted at his or her store. If the pharmacist surveyed had been involved in the dispensing of at least one trial prescription, the full survey was administered. If the pharmacist had not dispensed any trial prescriptions, an abbreviated form of the survey was administered. Responses were recorded on the form shown in Appendix 3-A.

To conclude the project, face-to-face, on-site interviews were conducted with participant pharmacists. Data collected from the participant interviews was qualitative in nature and provided descriptive data regarding pharmacists' understanding of the project and their future role within the trial prescription process. Responses to the concluding interview questions were also used to ascertain pharmacy practice issues impacting the ability of pharmacists to use trial prescriptions. Additionally, information detailing patient acceptability and patient refusals of trial prescriptions was collected at this time. While pharmacists were provided with Trial Refusal Summary Forms at the beginning of the project, these forms went unused. As a result, data on trial prescription refusals had to be collected during the concluding interviews. Finally, these interviews were used to determine the overall satisfaction level of pharmacists with the project and to identify any issues meriting closer examination during the evaluation. A list of the concluding site interview questions can be found in Appendix 3-B.

Stakeholder discussion groups

Subsequent to the project's conclusion, consultations with consumer groups and other related organizations were completed. The purpose of these consultations was to obtain feedback in the following areas: (1) determine the effectiveness of project publicity efforts, (2) ascertain methods to integrate stakeholder groups into the ongoing process of program refinement, (3) assess the level of support among stakeholder groups for the continuance of this initiative, and (4) obtain the assistance of stakeholder groups to sell the program to participants. Groups consulted for feedback included the Alberta Council on Aging, the Alberta Association for the Retired and Semi-retired, the Golden Circle Senior Centre, the Seniors' Advisory Council, Alberta Community Development, the Alberta Pharmaceutical Association, the Alberta Medical Association, and the Alberta College of Physicians and Surgeons.

EVALUATION OF TRIAL PRESCRIPTIONS

Several methods of data collection were employed to fulfill the requirements outlined in objective two. The primary methods of data collection employed were face-to-face interviews, mail-out surveys and prescription claim data.

Data Collection

Pharmacy and pharmacist demographic information

Information regarding the location and type of pharmacy was collected during the initial site visits. Pharmacies located in Red Deer were classified as urban, while all others were classified as rural. Pharmacy type was determined by the ownership of the store and the percentage of total store sales generated by the pharmacy department.

Ownership classifications included: (1) independent ownership, (2) franchise ownership, and (3) chain ownership. Pharmacy sales classifications included: (1) dispensary, where pharmacy sales were 75 percent or more of total store sales; (2) traditional, where pharmacy sales were 25 to 74 percent of total store sales; and (3) department, where pharmacy sales were less than 25 percent of total store sales. Average daily prescription volume was also collected by self-report from the pharmacists. Pharmacist demographic information was collected at this time and included number of years in practice and employment status. Categories of employment status included: (1) owner, (2) manager, (3) full-time staff, and (4) part-time staff.

Mail-out surveys

Pharmacist perception surveys were mailed in a pre-post time series design. These surveys consisted of 23 questions scored on a 5 point Likert scale and are shown in Appendices 3-C and 3-D. For the pre-survey, one pharmacist at each site was requested to complete the survey. The final survey was left during concluding site visits for all pharmacists to complete and return by mail, with those pharmacists completing the pre-survey asked to indicate this on the concluding survey. In addition, the final survey had 6 additional questions intended to ascertain pharmacist attitudes regarding future directions for the profession and their own work environment. The purpose of these surveys was two-fold. First, it was to determine if the trial prescription project would have an impact on pharmacist practice patterns. Second, it was to determine the acceptance of trial prescriptions by pharmacists and their ability to assimilate trial prescriptions into their practice of pharmacy.

The survey was tested by a group of five pharmacists for face validity. These five pharmacists consisted of: (1) two academics with post-graduate training at the doctoral level, (2) government member of the project planning committee, (3) A.P.E.C. member of the project planning committee, and (4) pharmacist in policy and planning with post-graduate training at the master's level.

The 23 questions were grouped into four areas: (1) pharmacists' current practice habits, (2) pharmacists' attitude toward and acceptance of trial prescriptions, (3) impact of trial prescriptions on pharmacists' practice habits, and (4) general program aspects. Six questions were included in each of the first three question areas, while five questions were included in the general category. Each set of six questions consisted of three pairs of questions which dealt with pharmacy practice environment, patient care and interpersonal skills. Of the nine paired questions, four were paired opposites in which one question was in a positive direction and one question was in a negative direction. Question order was also varied in the pre- and post-surveys.

Prescription claims data

For the purposes of this study, four groups of prescription claims data were collected. First, the claims for trial prescriptions were collected on the modified Blue Cross Claim Form. Data collected on these forms included the patient specific information of Blue Cross identifier number, birthdate, gender and patient relationship;

data regarding drug cost, quantity, days supply and drug identification number; prescriber number; pharmacy license number, pharmacist license number and dispensing fee charged. Unique to this claim form was a section to collect patient outcome of the trial prescription. The patient outcomes listed on the claim form were those deemed to be most relevant to the limited list of eligible medications as determined jointly by the planning committee and research pharmacists at Alberta Blue Cross. A large comment section for the pharmacist to record what services were provided to the patient was also included on the claim form. The completion and content of the comment section was left to the discretion of the pharmacist. Submission of this data by pharmacists was required to receive payment for trial prescriptions.

The remaining three groups of prescription claims data were extracted from the Alberta Blue Cross database. The second group of claims data collected was summaries of all the prescription claims submitted by the participating pharmacies during the six month study period. Prescription data respecting the DIN, client identifier number, new or refill status and days supply of drug were required to determine the number of prescriptions eligible for trial prescriptions during the study period and thus, the actual rate of initiation of trial prescriptions by pharmacists. A third group of claim data supplied by Alberta Blue Cross was a summary of provincial prescription claims for seniors submitted during the six month study period. This data was required to enable projections, based on rates of initiation of trial prescriptions ascertained from the pilot project results, of potential cost-savings on a provincial basis. The final group of claim data was that of Group 1 Blue Cross benefit recipients. Prescription claims for this government funded drug program were collected from the thirty-six sites commencing the trial prescription project for the months of November 1994, December 1994, and January 1995. The purpose of this data was to enable projections of the potential cost savings if trial prescriptions had been implemented in this population.

TREATMENT OF DATA

Participant interviews and stakeholder discussion groups

Qualitative data obtained in discussions with pharmacists and stakeholders were compiled and used to assess the project strengths and weaknesses. Specifically, pharmacist interviews were used to assess the acceptability of the project framework to pharmacists and the ability of pharmacists to integrate trial prescriptions into their pharmacy practice. Further, pharmacist-reported patient and physician responses to the project were compiled to assess the acceptance of trial prescriptions in each group. This data was then used to provide direction for stakeholder discussion groups. Data obtained in stakeholder discussion groups were compiled and categorized into the following areas: (1) stakeholder knowledge of the project, (2) stakeholder concerns, (3) stakeholder comments and suggestions. This data was then used to make recommendations for future program design and implementation processes.

Pharmacy and pharmacist demographic information

Demographic information was used in two ways. First, it established the representativeness of the participating sites of pharmacies throughout Alberta. A frequency distribution of all the pharmacies in Alberta by pharmacy location and pharmacy type was examined and a chi-square goodness of fit test was used to determine the representativeness of the pilot project sites. Second, this data was used to determine if the demographic factors of pharmacy type, average daily prescription volume, pharmacy ownership and number of pharmacist practice years had any impact on the initiation of trial prescriptions. The percentage of pharmacies and/or pharmacists in each of the aforementioned categories was compared with the percentage of pharmacies and/or pharmacists initiating trial prescriptions in each category. Chi-square tests were used to determine goodness of fit.

Pharmacist perception surveys

To determine if trial prescriptions had any impact on pharmacist practice habits, responses on the pre and post surveys were compared and t-tests were conducted to determine if observed differences in pharmacist responses were statistically significant. Additional questions on the post-survey intended to establish general pharmacist practice habits and pharmacist opinion regarding future directions for the profession were examined for correlation between rates of initiation of trial prescriptions. Student's t-test was performed to determine if the responses of pharmacists in sites initiating trial prescriptions differed significantly from the responses of pharmacists in sites not initiating trial prescriptions.

Prescription claims data

Trial prescription claims were used to ascertain descriptive data regarding the patients who received trial prescriptions, the drugs most frequently initiated as trial prescriptions, average fees, rationale for initiating a trial prescription and trial prescription outcome. Descriptive data pertaining to the sites initiating trial prescriptions most frequently and pharmacists initiating trial prescriptions most frequently was analyzed in conjunction with demographic data to determine if discrepancies in the rates of initiation of trial prescriptions were attributable to practice environment or pharmacist characteristics. Further, data from trial prescription claims were used to elicit figures for a cost-savings analysis. Outcome data from incomplete trial prescriptions were used for a more detailed estimate of the value of the trial prescription to the patient and the health care system.

The comprehensive data of prescription claims for seniors from all pilot project sites for the six month duration of the project were examined to identify the number of prescriptions filled at each site for each drug product or drug identification number (DIN), each drug entity and each pharmacologic and therapeutic classification (PTC) as defined by the American Hospital Formulary Service. The number of prescriptions filled at each site was stratified according to its status as a new or repeat prescription. Prescriptions classed as new prescriptions were identified as eligible and ineligible prescriptions based on whether or not the days supply of the medication exceeded twenty one days. The pharmacy supplied data regarding prescription status as new or repeat was often inaccurate and prescriptions were also sorted by patient identifier number to eliminate prescriptions classified as new which were actually the continuance of ongoing therapy. Moreover, in instances where the pharmacy supplied data was not an accurate indication of the days supply of the medication, i.e., a quantity of 60 tablets classed as a 3 day supply, the directions for the prescription were assumed to be for the typical daily dose as per the manufacturers' monographs and the days supply was calculated accordingly. This information was used to establish the percentage of the total number of prescriptions which were actually eligible for trial prescriptions. Based on this figure and data from the trial prescription claims, the net rate of initiation of trial prescriptions was estimated first for all sites then for only those sites initiating trial prescriptions.

A provincial summary of the prescription claims submitted by all pharmacies in Alberta for the six month duration of the trial prescription pilot project was used to ascertain the potential cost-savings if trial prescriptions had been initiated at the same rate throughout the province. Figures regarding the percentage of the total number of prescriptions eligible for trial prescriptions and the rate of initiation of trial prescriptions obtained in the analysis of the comprehensive seniors claim data from the pilot project pharmacies were used to determine potential provincial savings. Additional sensitivity analyses were completed to assess the potential cost savings if the initiation rates and/or incompletion rates of trial prescriptions differed from those obtained in the pilot project.

Finally, trial prescription outcome data for incomplete trials were used in conjunction with pharmacist notes on services provided to patients to form the framework for individual case analyses of the benefits to the patient beyond the dollars saved by not receiving the balance of the medication. Of particular concern were costs to the system for physician visits or acute care services due to a severe reaction resulting from inadequate monitoring of the medication when therapy was initiated or a worsening of a chronic illness due to inadequate response from therapy. Also given consideration were quality of life issues for the patient if the medication was not tolerated or did not produce the desired effect.

CHAPTER FOUR

RESULTS

ASSESSMENT OF THE PROJECT FRAMEWORK

Participant interviews

Pharmacists were interviewed at two points during the project. The first interview was conducted via telephone at the mid-point of the project. The second interview was conducted face-to-face after the project concluded during site visits. The mid-point interview asked pharmacists about the structure and functioning of the project. The concluding interview was intended to ascertain a broad perspective on the pharmacists' understanding of the project, practice issues affecting the pharmacists' ability to integrate and use trial prescriptions in addition to patient selection and feedback. Despite the different focus of the two interviews, several recurrent themes emerged. Specifically, the issue of time constraints on the pharmacist continued to pose a significant barrier to the ability of pharmacists to integrate trial prescriptions into their practice. Additionally, the manual billing system implemented only for the pilot project consistently rated poorly with all pharmacists interviewed. Another expected theme was the concern expressed regarding the number of seniors rendered ineligible for trial prescriptions due to the prior receipt of physician samples. A surprising finding, however, was the marked increase in the number of interviewees reporting at the concluding interview that they had not approached any patients whatsoever to initiate a trial prescription. This is puzzling when one considers that 24 out of 30 interviewees in the concluding interviews were also interviewed for the mid-point survey.

Mid-Point phone interviews

The objectives of the mid-point phone interviews were: (1) ascertain the opinions of pharmacists with respect to the implementation, methodology and available support services of the trial prescription pilot project, (2) determine the level of acceptability of the project methodology to participating pharmacists, and (3) ascertain pharmacists' perceptions of the opinions and response of patients and physicians. One pharmacist at each of the thirty-six sites study sites was interviewed. Pharmacists at eighteen of thirty-six stores or 50% reported to have completed at least one trial prescription by the end of October. One site requested to be withdrawn from the project. Lack of interest in the project by the staff pharmacists was cited as the reason for withdrawal.

Survey results

Implementation, methodology and available support services

The opinions of pharmacists regarding the implementation of the trial prescription pilot project were assessed by asking about pharmacist support from project organizers, promotional materials, payment methods, prescription eligibility criteria and eligible drugs. Pharmacists' responses in these areas follows.

i. Pharmacist support and promotional materials- Pharmacists were provided with supplemental materials for use in the pilot project during on-site orientation. The cornerstone of these materials was the project manual. After three months, all pharmacists surveyed responded that they had found the manual to be comprehensive and easy to use. Only two sites required assistance from project support staff. Pharmacists at both sites reported that they knew who to call to get help, however, only one site was able to get the necessary answers to their questions regarding problems with payment for trial prescriptions. These unanswered concerns were resolved by the project manager at the time of the phone interview.

The usage of the other support and promotional materials was varied and appeared to be related to whether or not the site had initiated any trial prescriptions, as indicated in Table 4.1.

Support and Promotional Material	Percent of pharmacies using the promotional material where trial prescriptions **had** been dispensed	Percent of pharmacies using the promotional material where trial prescriptions **had not** been dispensed
patient reminder cards	72.2%	5.6%
patient tear off sheets	72.2%	22.2%
posters	83.3%	27.8%
trial prescription refusal summary form	0%	0%

Table 4.1. Use of promotional materials by participant pharmacies

It appears that the project was not as actively promoted at sites not conducting any trial prescriptions. Pharmacists using patient reminder cards and tear-off sheets, however, reported that the patients had been responsive to the materials and that the reminder cards were particularly helpful for patient follow-up. The Trial Prescription Refusal Summary form had not been used by any pharmacies at the mid-point of the project.

Pharmacists indicated that the form was straight forward and easy to use but not convenient. As a result, descriptive data regarding the reasons why patients declined to have a prescription dispensed as a trial prescription was collected during the concluding on-site interviews in February, 1995.

ii. Method of payment- Pharmacists who had dispensed at least one trial prescription were asked to rate the ease of use of the fee structure and the special manual billing form. Forty-four percent of pharmacists indicated that the fee structure was easy to use, while 56% rated it as complex but understandable. In all instances, pharmacists felt that it would be desirable to have the fee structure calculations handled by pharmacy software systems. No pharmacists rated the fee structure as extremely complicated. Sixty-seven percent of pharmacists rated the special manual billing form as easy to use, while 22% of pharmacists rated the form as complex but understandable. One pharmacist reported that the form was extremely complicated. All pharmacists questioned, however, expressed a strong desire to have trial prescriptions processed through the Blue Cross Provider Remote Information and Data Exchange (P.R.I.D.E.) system upon implementation as a program. Based on the response of the pharmacists, no changes to the fee structure or billing form were made at the mid-point of the project.

iii. Prescription eligibility criteria- Ninety-four percent of pharmacists asked about the ease of use of prescription eligiblity criteria responded that it was easy to understand. Only one pharmacist responded that they were complex but understandable and no sites rated the criteria as extremely confusing. All but one pharmacist felt that the prescription eligibility criteria were appropriate. The pharmacist that felt the criteria were inappropriate cited the 7 day rule governing the quantity to be dispensed for the initial prescription as too short. As a result, no changes to the prescription eligibility criteria were made at the mid-point. A complete listing of the prescription eligibility criteria can be found in Appendix 1.

iv. Eligible drugs- Pharmacists were asked to rate the eligible drugs with respect to their appropriateness and if it was helpful to have a restricted list of eligible medications. Table 4.2 summarizes pharmacists' responses.

	Pharmacist rating		
Eligible drugs rating aspect	Appropriate/ Helpful	Inappropriate/ Not Helpful	Not sure
Helpful/ not helpful to have a restricted list of eligible medications	80.6%	0%	19.4%
Selected medications appropriate/ inappropriate for trial prescriptions	77.8%	2.8%	19.4%

Table 4.2. Pharmacist ratings of aspects of eligible drugs

All of the pharmacists responding that they were uncertain as to whether or not a restricted list of medications was helpful had not yet filled any trial prescriptions. Similarly, 71% of pharmacists that were uncertain as to the appropriateness of the selected medications had not yet dispensed any trial prescriptions.

Pharmacists were also asked to provide suggestions for the addition or deletion of medications. Table 4.3 summarizes pharmacists' suggestions for additions to the list of eligible medications.

Therapeutic Category		Specific Drugs Suggested	Number of Sites Suggesting
08:12	Antibiotics	none specified	2
24:04	Cardiac drugs	Beta-blockers	1
24:06	Antilipemic agents	Zocor, Mevacor, Pravachol, Questran tablets	4
28:08:04	Analgesics and Antipyretics (NSAIDs)	Naprosyn SR, Toradol	4
28:16:04	Psychotherapeutic Agents (Antidepressants)	5-HT re-uptake inhibitors- Prozac, Zoloft, Paxil, Luvox	5
40:28	Diuretics	none specified	1
56:40	Miscellaneous GI drugs	Losec, Prepulsid, Motilium, Cytotec	6
68:04	Adrenals	Becloforte, other inhaled steroids	3
Miscellaneous		Proscar	1

Table 4.3 Table of suggested additions to trial prescription drug benefits

Only five pharmacists responded that medications should be removed from the eligibility list. Three pharmacists felt that H_2 blockers should be removed , one pharmacist felt that indomethacin should be removed from the list of eligible products, and one pharmacist remarked that other NSAIDs should be removed but was unable to specify which ones. On the whole, the pharmacists surveyed were of the opinion that the list should be expanded rather than reduced.

Acceptability of the project methodology to participating pharmacists

The level of acceptability of the project methodology was addressed by asking pharmacists about their ability to incorporate trial prescriptions into their practice routine and their satisfactions or dissatisfactions with the project methodology. The biggest problem reported by pharmacists in incorporating trial prescriptions into their practice routine was time constraints. The majority of pharmacists who had dispensed trial prescriptions reported that trial prescriptions sometimes took too much time, mainly due to additional paperwork. Sixty-one percent of pharmacists reported that it was only during the busy periods in the pharmacy that trial prescriptions took too long. Despite indicating that trial prescriptions sometimes take too long, only one third of pharmacists surveyed responded that the time required to complete a trial prescription was a deterrent to initiating a trial prescription.

Although pharmacists were dissatisfied with the processing of paperwork involved in trial prescriptions, they were very satisfied with having the option of dispensing trial prescriptions available. However, pharmacist apathy was apparent at the mid-point. Many pharmacists commented that they hadn't had a chance to "get into it" or they just weren't interested in the project. Some pharmacists also commented that they were the only one at that site using trial prescriptions, while still others noted that there was a "lack of commitment to the project" among the pharmacists at their site. In addition, pharmacists offered ways to improve the trial prescription process including: (1) availability of trial prescriptions be expanded to include other patient groups, (2) longer trial period for medications in which side effects or failure of therapy are unlikely to appear within seven days, and (3) making trial prescriptions mandatory for all first-time prescriptions. Concern was also expressed about the impact of physician samples on the number of eligible prescriptions.

Pharmacists' perceptions of the opinions and response of patients and physicians.

Pharmacists' perceptions of patient and physician response to the trial prescription project were obtained by asking about the agreeability of patients and physicians to the concept and the ability of patients to understand the process. Table 4.4 summarizes the pharmacist perceived agreeability of patients and physicians.

	Pharmacist rating		
Group of individuals	Agreeable	Disagreeable	Neutral/Not sure
Patients	86%	0%	14%
Physicians*	100%	0%	0%

Table 4.4. Pharmacist perceived agreeability of patients and physicians

* Only 22% of pharmacists surveyed had any contact with physicians, therefore it is difficult to draw generalized conclusions about physician response to the project.

Regarding patient understanding of the concept of trial prescriptions, all pharmacists indicated that the concept of a trial prescription was moderately to very easy for patients to understand. This would appear to indicate that, once approached by a pharmacist, patients have a good understanding of what a trial prescription is and are generally responsive to the concept.

Concluding pharmacist interviews

The objectives of the concluding pharmacist interviews were: (1) obtain an assessment of pharmacists' understanding of the project and their future role within this framework, (2) pharmacy practice issues impacting the ability of pharmacists to use trial prescriptions, (3) patient acceptability and patient refusals of trial prescriptions, and (4) overall satisfaction level of pharmacists with the project. Thirty interviews were conducted during the first two weeks of February, 1995. No pharmacists were interviewed at six sites which started in the project at the conclusion for the following reasons: three sites had dropped out of the project, one site had not completed any trial prescriptions so the pharmacy manager requested that he not be interviewed, one site had gone out of business as of December 31, 1994 and another site was to be run by relief pharmacists from Calgary for the month of February as the proprietors were on vacation. One pharmacist scheduled for an interview was too busy to accommodate an interview and a return date could not be arranged. Materials were left to be completed and returned in the mail, but no response was received, despite a follow-up reminder letter sent out two weeks subsequent to the interview attempt. As a result, pharmacist feedback was obtained from pharmacists at twenty nine sites.

Survey results

Pharmacist understanding of the project and role perceptions

Pharmacists' understanding of the project and role perceptions were assessed by asking pharmacists to characterize the objectives of the project and to describe their role in the project. Half of all pharmacists asked responded that cost savings and improved patient care were the objectives of the project. Other responses included: (1) decreasing waste of medications, (2) determining the feasibility of trial prescriptions, (3) improving pharmacy practice, (4) increasing pharmacy profits, (5) more government bureaucracy, and (6) help patients who don't have much money. Only one pharmacist responded to being uncertain when asked what the objectives of the project were. Pharmacists had a clear understanding of the objectives of the project, as all three of the objectives of the project that were outlined at the time of the initial site visits and appeared in the manual were identified by pharmacists. It is, however, surprising that so few pharmacists viewed the project as an opportunity to expand their professional role.

When asked to describe their role in the project, pharmacists responded with words such as educator, liaison, interventionist, initiator of trial prescriptions, screening and detection of adverse drug reactions and care provider. Other roles that pharmacists perceived for themselves were to save the patient and the drug program money; to decrease waste of medications; as well as to sell the concept to other third party payers. Only three pharmacists responded that they were not certain what their role was. Somewhat disconcerting, however, was the perception of some pharmacists that they should only be conducting trial prescriptions and increased patient monitoring subsequent to the request of the physician or patient. The majority of pharmacists, however, believed that the pharmacist should be playing an active role in this type of initiative.

Pharmacy practice issues impacting the integration and use of trial prescriptions

The subject of practice issues impacting the integration and use of trial prescriptions was divided into two areas - the practice environment and personal practice habits. Seventy-three per cent of pharmacists responded that time constraints were the most prominent negative factor in the practice environment impacting their ability to use trial prescriptions. Time constraints were attributed to two factors, a high volume of prescriptions dispensed on a daily basis or inadequate staffing levels. One pharmacist responded that time was a positive force in his ability to use trial prescriptions, noting that because the store was not excessively busy, he was able to spend a great deal of time with patients. Other environmental factors negatively impacting the use of trial prescriptions included: (1) physical layout of the pharmacy, (2) lack of eligible prescriptions, (3) lack of compatible software, and (4) lack of cooperation among co-workers. Environmental factors positively impacting the use of trial prescriptions included: (1) cooperation among co-workers, and (2) being located in a small town, as patients were known to the pharmacist. One quarter of pharmacists responded that their practice environment had no impact on their ability to use trial prescriptions.

Personal pharmacy practice habits impacting the pharmacists' ability to carry out their role in the project were more varied than the environmental factors. Personal pharmacy practice habits identified as having a negative effect included: (1) not remembering to ask the patient because it had not become a habit yet, (2) intimidation of the added responsibilities, (3) shyness approaching the patient, and (4) not having the time to conduct trial prescriptions. Personal practice habits identified as having a positive impact included: (1) good rapport with patients and/or physicians, (2) attitudinal factors, such as actively pursuing any opportunity that arose to initiate a trial prescription and making a concerted effort to spend more than average amounts of time in patient related activities. One quarter of pharmacists indicated that their personal practice habits didn't have any effect on their ability to actively participate in the project.

Patient selection, patient acceptability and patient refusals

To obtain a picture of the patients involved in the project, pharmacists were asked about the types of patients they approached for trial prescriptions, the responses of patients to the project and why patients declined to participate. Pharmacists responded most frequently approaching patients based on the following: (1) a previous history of medication sensitivities, (2) a medication profile indicating an increased likelihood of adverse drug reactions, (3) the prescription fit the eligibility criteria outlined in the project guidelines, (4) patient age, that is the very elderly, (5) being known to the pharmacist, and (6) patient address, i.e. does not live out of town. One quarter of pharmacists interviewed did not approach any patients during the six months of the project. With respect to patient acceptability of trial prescriptions, pharmacists reported that the majority of patients were pleased with the project and the opportunity it provided them to save money and receive increased monitoring during the initial stages of a new drug therapy.

Despite the positive response of most patients, some pharmacists did experience refusals to their offers to initiate a trial prescription. While pharmacists noted that refusals by patients were the exception rather than the rule, refusals were observed due to not meeting eligibility requirements or patient disagreement. Reasons for the latter type of refusals were due to the following: 1) inconvenient to return, 2) leaving on holidays,

3) not wanting to go against the wishes of the physician, 4) patient confusion regarding no extra cost, and 5) patient felt it was unnecessary. Overall, however, pharmacists felt that patients were very receptive to the project and as a result very few refusals were due to patient dissatisfaction with the option of trial prescriptions.

Overall satisfaction level of pharmacists and significant issues

The questions asked of pharmacists to ascertain their satisfaction with the project design were how well they felt that project guidelines fit with the objectives of the project as well as the areas of the project they were most satisfied with or dissatisfied with. Half of pharmacists interviewed felt that the guidelines of the project fit well with project objectives. Pharmacists who felt that the guidelines did not fit well indicated that the guidelines were too restrictive. Areas of specific concern included: (1) limited patient population, (2) limited list of medications, (3) duration of the initial trial quantity, (4) the prescription be for a medication that the patient had not received for a previous episode of care, (5) fees for trial prescriptions too generous, and (6) restrictions should have been placed on the use of samples during the pilot project.

The final subjects addressed in questions for the pharmacists were the areas of the project they were most satisfied with or dissatisfied with. For the most part, pharmacists were pleased with project operations, indicating that the project was implemented and run smoothly. Areas that pharmacists reported satisfaction with included: (1) project was clearly laid out, (2) receipt of ongoing updates regarding the project, (3) forms designed for the project were easy to use, (4) fair pricing structure for pharmacists and patients.

The resounding majority of pharmacists felt that trial prescriptions were a good idea and that the project should proceed to the program stage in an expanded form. Dissatisfaction among pharmacists was identified in the following areas: (1) lack of on-line adjudication of claims, (2) incompatibility of pharmacy software, (3) not enough public interest generated by project organizers, (4) intake of prescriptions by technicians, (5) lack of cooperation from other pharmacists, (6) physicians were not well enough informed about the project, (7) amount of ineligible prescriptions due to physician samples, (8) rejections by patients of the offer to have their prescription dispensed as a trial prescription, (9) initial rejection of a trial prescription claim by Blue Cross, and (10) low volume of trial prescriptions. Despite pharmacists' concerns, only one pharmacist felt that the project should not be continued.

Post-project discussion groups

Subsequent to the completion of the pilot project, additional consultation was conducted with external stakeholder groups not initially involved in the planning and implementation of the Alberta Trial Prescription Pilot Project. These groups included the Alberta Council on Aging, the Alberta Association of Retired and Semi-retired, the Alberta Medical Association, the College of Physicians and Surgeons of Alberta, the Alberta Pharmaceutical Association, the Pharmaceutical Manufacturers' Association of Canada, the Seniors Advisory Council, Alberta Community Development as well as various pharmacy software vendors and local seniors' centres. In addition, further consultation with pharmacists in central Alberta took place. While the nature of the feedback received from all parties was of a positive nature, these consultations resulted in the emergence of several common themes respecting future directions for the use of trial prescriptions in Alberta.

Foremost in the comments received from external stakeholder groups was the clinical and economic value of this service to patients. Because of the potential benefits offered the patient by trial prescriptions, all groups consulted felt that this initiative warranted further examination. Moreover, all groups indicated a strong desire to play a more active role in future program planning and implementation. Groups such as the Alberta Council on Aging, the Alberta Medical Association and the Pharmaceutical Manufacturers' Association of Canada indicated that it would be most appropriate to conduct an expanded pilot project prior to the adoption of trial prescriptions as a provincial program. It was also apparent that to obtain full support for a trial prescription program at the level of the Alberta Medical Association and the Pharmaceutical Manufacturers' Association of Canada, more data conclusively demonstrating the merits of a trial prescription program must be provided.

Consumer involvement

Groups consulted for feedback and suggestions regarding consumer involvement in trial prescriptions included the Alberta Council on Aging, the Alberta Association for the Retired and Semi-retired, the Golden Circle Senior Centre, the Seniors' Advisory Council and Alberta Community Development. Of great significance was the overall low level of knowledge that the aforementioned groups had of the project. Despite the relative unawareness of these groups, all felt that the project was a good concept that offered a valuable service to a group in need of increased drug-therapy monitoring. Additionally, it was felt that this initiative would ultimately improve the level of patient care while simultaneously increasing the satisfaction level of seniors with available prescription drug benefits. The consensus of the groups consulted was that the potential that this project had for patient benefit should outweigh any additional costs that might be incurred in the final decision-making process. There was also concurrence that the project should be continued and expanded to include more pharmacies and more medications. It was, however, felt that the program should be made more user-friendly through increased publicity directed at seniors and physicians. A summary of strategies for increased consumer involvement presented by stakeholder groups is presented in Appendix 4.

Physician involvement

Physician issues figured prominently in the use of trial prescriptions. The major issues named by the Alberta Medical Association (AMA) were the necessity of obtaining physician buy-in to the initiative and ensuring the existence of a feedback loop between pharmacists, physicians and patients. It was suggested that the first issue could be accomplished through the use of integrated focus groups and educational sessions with physicians and pharmacists. It was noted, however, that the message directed at physicians should contain a listing of the benefits of trial prescriptions from the physician's perspective. Representatives from PMAC also indicated that it may be beneficial to work in conjunction with industry to use education to sell the program and change behaviour among physicians, pharmacists and patients. It was noted that industry has long been known for being good at changing behaviour, specifically in physicians through the use of their sales force. The suggested angle from which to develop a strategy aimed at physicians was one in which trial prescriptions are presented to the physician as an *alternative* to samples for special needs patients who require extra care and monitoring. Not only would this assist in selling the program to physicians, it would strengthen ties with industry. The aforementioned two strategies would also provide a starting point for the development of a feedback loop. Additional co-joint consultations with regional physician and pharmacist groups would assist with the development of mechanisms for feedback and create provider interactions at the grassroots level. A final strategy would be to ensure that input from appropriate AMA committees is sought during the development of mechanisms to effect feedback loops.

Systems requirements

The focus for discussions regarding systems requirements was to ascertain methods to improve the ability of pharmacists to efficiently process trial prescriptions using current pharmacy software systems and the Blue Cross P.R.I.D.E. system. The completion of necessary modifications to software and hardware systems could alleviate the problems identified by pharmacists of too much paperwork and the time-consuming manual billing process. During interviews with representatives from Microlan, Zadall and Kroll computer systems, it was ascertained that software modifications would require

2 to 3 months to complete, depending on the nature of the change. All parties interviewed indicated that any changes which were specified in C.Ph.A. claim standard 3.0 could be accommodated with relative ease. (C.Ph.A. claim standard 3.0 does have a field for intervention and exception codes. Trial prescriptions are included as one of the intervention codes.) It was noted, however, that changes not conforming to C.Ph.A. claim standard 3.0 would require more time and would be costly. Of interest was the indication from Kroll that they are currently developing a system which incorporates not only interventions but also outcomes. The representative from Kroll felt that trial prescriptions would be well adapted to this new module.

EVALUATION OF THE TRIAL PRESCRIPTIONS

The second objective of this study was to evaluate the trial prescription pilot study in terms of: (1) pharmacist performance as the health care provider responsible for trial prescriptions through an examination of the proportion of eligible prescriptions actually initiated as trial prescriptions and the quality of documentation on trial prescriptions received, (2) moderators of pharmacist performance, as determined by rates of initiating trial prescriptions, and (3) cost-savings obtained from the trial prescription claims data from the pilot project. The remaining results examine the trial prescriptions completed during the study and the performance of the participating pharmacists in fulfillment of this objective.

Pharmacy and pharmacist demographic information

A survey of the pharmacies in Alberta revealed that one-third of all pharmacies are located in rural areas and two-thirds are located in urban areas. (For the purposes of the study, urban was defined as cities with a population greater than 20,000. All other areas were classed as rural) The sites participating in the project were split equally between urban and rural, indicating a distribution skewed toward rural sites, $\chi^2(1, \underline{N} = 36) = 5.73$, $\underline{p} < .05$. With respect to ownership, however, project sites were evenly distributed and representative of the pharmacies in Alberta, $\chi^2(2, \underline{N} = 36) = 2.51$, $\underline{p} > .20$. As per the demographics of pharmacies in Alberta, the largest proportion of project sites were independently owned, followed by chain ownership. The smallest proportion of project sites were franchise stores.

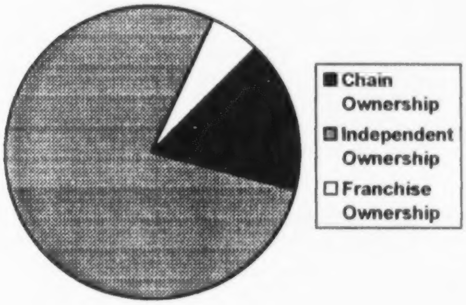


Figure 4.1 Distribution of project sites by type of ownership.

Ninety-four pharmacists participated in the pilot project. Forty-one pharmacists had been in practice for under 10 years, while 27 pharmacists had been in practice for 11 to 20 years. Only 27 percent of participating pharmacists had been in practice for greater than 20 years with a breakdown of 18 pharmacists in practice for 21 to 30 years and 8 pharmacists in practice for greater than 31 years. The mean number of years in practice for participating pharmacists was 14.38 years with a standard deviation of 11.16 years. With respect to employment status, 40 pharmacists were either pharmacy owners or managers. The remaining 54 pharmacists were divided equally between full-time staff pharmacists and part-time staff pharmacists, with 27 in each position. Comparisons of the demographics of study pharmacists with pharmacists throughout the province of Alberta were not possible as province-wide data were not available.

Pharmacist performance as determined by rates of initiation of trial prescriptions

An analysis of prescription claims submitted for Groups 66/66A from all eligible sites for the six month period of the pilot project was conducted to test the following hypothesis:

H_O1. Pharmacists will initiate trial prescriptions in at least 10% of all eligible prescriptions.

The purpose of this analysis was to determine the total number of prescriptions dispensed at project sites for medications included in the pilot project. This data was used to determine the percent of prescriptions within this prescription group that were eligible to be dispensed as trial prescriptions in accordance with project guidelines. Prescriptions were classified as eligible if they were new prescriptions and the total quantity exceeded a twenty-one day supply. Data from the 33 stores completing the pilot project revealed that 22,160 prescriptions were dispensed for medications included in the pilot project during the six month period from August 2, 1994 to January 31, 1995. Of these 22,160 prescriptions, 3,121 met the project prescription eligibility criteria. The 20 pharmacies submitting trial prescription claims dispensed 16,348 prescriptions for medications included in the pilot project, of which 2,252 prescriptions met project prescription eligibility criteria. It should be noted, however, that the available prescription claims data classified prescriptions as either new or refill, not as first time prescriptions. Thus, this number is likely an overestimate of the actual pool of eligible prescriptions.

Based on the prescription numbers obtained in the analysis of prescription claims data, a gross trial prescription initiation rate of 0.4 percent was determined. This was calculated as follows:

$$\text{Percent of prescriptions dispensed as trial prescriptions} = \frac{\text{80 trial prescriptions}}{\text{22160 prescriptions}} \text{ X } 100$$

A net trial prescription initiation rate was calculated by dividing the total number of trial prescriptions dispensed for eligible medications by the number of eligible prescriptions dispensed at all stores completing the project. This figure was then multiplied by 100 to obtain a rate of 2.6 percent. If the prescription population was limited to only the twenty stores initiating trial prescriptions, a gross initiation rate of 0.5 percent and a net initiation rate of 3.6 percent were obtained. Table 4.5 summarizes the prescription population size and the rates of initiation of trial prescriptions.

Drug Class	Trial Rxs	Total Rxs-All sites	Gross rate of init'n-All sites	Elig-ible Rxs-All sites	Net rate of init'n-All sites	Total Rxs-20 sites with trial Rx	Gross rate of init'n-20 sites	Elig-ible Rxs-20 sites with trial Rx	Net rate of init'n-20 sites
ACEIs	11	6589	.17%	801	1.4%	4831	.23%	568	1.9%
CCBs	35	6750	.52%	789	4.4%	4921	.71%	574	6.1%
NSAIDs	30	4606	.65%	851	3.5%	3486	.86%	621	4.8%
H_2 Blockers	4	4215	.09%	680	.59%	3110	.13%	489	.82%
TOTAL	**80**	**22160**	**.4%**	**3121**	**2.6%**	**16348**	**.5%**	**2252**	**3.6%**

Table 4.5 Summary of prescription numbers and rates of initiation of trial prescriptions.

Due to several factors which can potentially skew the actual number of eligible prescriptions upwards, the following confounding factors were examined to estimate the true rates of initiation of trial prescriptions: (1) previous receipt of a physician sample, (2) having the prescription filled previously at a different pharmacy, (3) receipt of the same medication for a previous episode of care, and (4) previous stabilization on the medication prior to discharge from the hospital. These confounding factors were assessed in terms of potential reductions in the number of eligible prescriptions determined from prescription claims data. The receipt of physician samples by the patient prior to having their prescription filled likely has the greatest impact on the actual number of eligible prescriptions. While studies regarding drug samples are scarce, a search of the literature yielded one study of sample medication dispensing by physicians. (Morelli and Koenigsberg, 1992) This study indicated that a drug sample is provided in approximately 8 percent of all patient visits. In 6 percent of all patient visits, or 71 percent of all sample dispensements, the medication is new to the patient. A serious limitation of this study, however, is its failure to provide the percent of patient visits in which a medication is prescribed. Without this data, it is difficult to determine the percent of prescriptions that would be rendered ineligible for a trial prescription as a result of the prior receipt of samples. Lexchin (1990), however, determined that 21 to 86 percent of patients visiting general practitioners are provided with prescriptions. Based on the compilation of data from these two studies, the rate at which samples are provided to patients was estimated. According to IMS data the percent of all prescriptions that are for new medications is 25. If 86 percent of patient visits result in a prescription, then the percent of patient visits resulting in new prescriptions can be estimated to be 21 percent. In the Morelli and Koenigsberg (1992) study, 6 percent of all patient visits resulted in the dispensement of a sample for a new medication. It was determined that the proportion of new prescriptions in which a sample is distributed is 28 percent, calculated as 6 divided by 21 then multiplied by 100. It is apparent that the provision of drug samples to patients can severely decrease the actual number of eligible prescriptions. A note of caution regarding the use of this figure, however, as the data from 2 separate studies was blended to arrive at this estimate due to the absence of research providing these figures.

After adjusting for physician samples using the conservative estimate of 28 percent, the eligible prescription pool diminishes to 1622 from 2252. An adjustment of 6 percent was made for prescriptions previously filled at another pharmacy but appearing as new at the pharmacy currently dispensing the medication. (Spaulding et al, 1976) This further reduced the pool of eligible prescriptions to 1487. Final adjustments of 5 percent each were made for prescriptions that were new but not first time, that is the patient had used the same medication for a previous episode of care, or were discharge prescriptions for medications which the patient had already been stabilized on in hospital. The resulting eligible prescription pool arrived at was 1262. When applied to all participating pharmacies, the eligible prescription pool was reduced to 1748 from 3121. Rates of initiation were then calculated using the adjusted eligible prescription pools. The rate of initiation was determined to be 6.34 percent if only the 20 stores dispensing trial prescriptions were considered and 4.58 percent if all 36 sites were considered. As these figures did not exceed 10 percent, H_0 1 was rejected.

Moderators of pharmacist performance

An analysis of the impact of moderators of pharmacist performance on initiations of trial prescriptions was completed for the following factors: (1) number of years the pharmacist has been practicing, (2) practice location of the pharmacist, (3) pharmacy type, (4) average daily prescription volume, (5) pharmacist attitudes regarding patient-oriented pharmacy care, and (6) drug class. The number of practice years of the pharmacist as well as pharmacy characteristics of location, ownership, pharmacy type and daily prescription volume were found to be significant indicators of the frequency with which trial prescriptions would occur at a given site. Additionally, pharmacist attitudes were found to be related to the number of initiations of trial prescriptions.

Analysis of trial prescriptions by drug class also revealed statistically significant differences among numbers of initiations between drug classes. The testing of the relevant hypotheses for these variables follows.

Practice years of the pharmacist

H_O2. There are no significant differences in the frequency of initiation of trial prescriptions among pharmacists with respect to number of years in practice.

At the conclusion of the project, 28 of 94 participating pharmacists had initiated at least one trial prescription during the project, for a pharmacist participation rate of 30 per cent. An assessment of the characteristics of the 28 pharmacists initiating trial prescriptions indicated that the number of years a pharmacist had been in practice had an impact on the frequency with which pharmacists would initiate trial prescriptions, $\chi^2(3, \underline{N} = 82) = 8.13, \underline{p} < .05$. Pharmacists who had been practicing for ten years or less initiated significantly more trial prescriptions than their counterparts with more experience. As the number of years in practice increased, the number of trial prescriptions initiated by pharmacists decreased. While pharmacists in practice for eleven to twenty years initiated close to the number of trial prescriptions that was expected, pharmacists in practice for greater than twenty years initiated substantially fewer trial prescriptions than expected. At first glance, one might explain this difference according to the job description of the pharmacist. While it is true that pharmacists in practice longer tend to be in management or ownership positions, from which one could infer that these individuals have less direct patient contact, the distribution of the pharmacists initiating trial prescriptions with respect to position did not differ significantly from what was expected. In fact, the distribution was surprisingly even between full time staff pharmacists, part time staff pharmacists, managers and owners. It would appear that the number of years in practice may be the greatest indicator of the frequency with which a pharmacist is likely to conduct trial prescriptions, irrespective of job title, therefore, H_O2 was rejected.

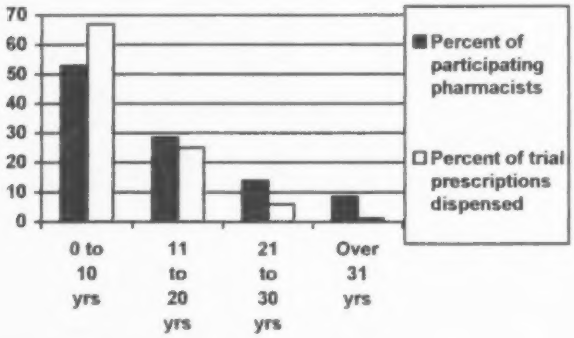


Figure 4.2 Per cent of participating pharmacists by years in practice versus per cent of trial prescriptions dispensed by years in practice

Practice location of the pharmacist

H_O3. There are no significant differences in the frequency of initiation of trial prescriptions among pharmacists with respect to practice location.

Pharmacy location showed a distribution of trial prescriptions skewed toward urban sites, with stores located in Red Deer generating a significantly higher volume of trial prescriptions than their rural counterparts, χ^2 (1, N = 82) = 5.29, p <.05. As a result, H_O3 was rejected.

Pharmacy type

H_O4. There are no significant differences in the frequency of initiation of trial prescriptions among pharmacists with respect to the type of store the pharmacist practices in.

The data revealed a significantly greater proportion of trial prescriptions being initiated in chain pharmacies than would be expected if the null hypothesis of no difference between the frequency of initiation of trial prescriptions in pharmacies independently owned, owned by a large chain or operated as a franchise was true, χ^2 (2, N = 82) = 19.57, $p<.05$. Consistent with this finding was the large number of trial prescriptions being initiated in pharmacies that were departments of a larger store, as the pharmacies that are owned by a large chain are generally operated as departments within a larger store, χ^2 (2, N = 82) = 22.64, $p<.05$. Thus, H_O4 was rejected.

Average daily prescription volume

H_O5. There are no significant differences in the frequency of initiation of trial prescriptions among pharmacists with respect to the average daily prescription volume.

Another predictor was the average daily prescription volume of the pharmacy. The distribution of trial prescriptions was skewed toward stores in which the average daily prescription volume was in the range of 100 to 149 prescriptions per day, χ^2 (4, N = 82) = 10.44, $p<.05$. Stores in which the average daily prescription volume was between 50 to 99 prescriptions had a distribution of trial prescriptions approximately equal to what would have been expected, however, stores dispensing less than 49 or greater than

150 prescriptions per day had a distribution of trial prescriptions much lower than expected, hence, $H_0 5$ was rejected.

Pharmacist attitudes regarding patient oriented pharmacy care

Scored on a 5 point Likert-type scale, where 1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5=strongly agree, pharmacist perception post-surveys were used to test $H_0 6$. The null hypothesis was the following:

$H_0 6$. There are no significant differences in the rate of initiation of trial prescriptions among pharmacists with respect to the pharmacist's beliefs about patient-oriented pharmacy care. .

Pooled t-tests were used to test for statistically significant differences in the responses to post-survey questions between pharmacists who had intiated trial prescriptions and pharmacists who had not. Pharmacist responses to survey questions were analyzed first by adding the responses for the 3 question pairs in each of the three general categories. Nine t-tests were completed to assess the differences in these specific areas, none of which revealed any statistically significant differences in the responses between the pharmacist groups. The three question pairs in each category were then added together to obtain scores for the following categories: (1) current practice habits, (2) attitude and acceptance of trial prescriptions, and (3) the effect of trial prescriptions on practice habits. Like the results obtained in the specific categories, no statistically significant differences were observed in the responses of pharmacists who had initiated trial prescriptions and pharmacists who had not. A summary of the results of the pooled t tests is presented in table 4.6. As no differences were observed in the attitudes toward the use of trial prescriptions among pharmacists who had not initiated trial prescriptions than those who had initiated trial prescriptions, $H_0$6 was accepted.

General category and specific question pairs[1]	Initiated (mean score ± SD)	Not Initiated (mean score ± SD)	t - value[2]
Current practice habits	21.77± 2.22	21.52± 4.25	-0.0366
Environment	5.46± 1.56	5.33±1.99	-0.0463
Patient care	9.42± 0.81	9.12± 1.29	-0.0811
Interpersonal	6.89± 1.45	6.95± 2.06	-0.0311
Attitude and acceptance of trial prescriptions	21.23± 3.43	17.19± 2.52	-0.6684
Environment	6.58± 1.58	5.76± 1.67	-0.4147
Patient care	6.73± 1.46	5.33± 1.46	-0.724
Interpersonal	7.92± 1.26	6.10± 0.83	-0.8248
Effect of trial prescriptions on practice habits	22.15± 3.95	17.95± 2.69	-0.6647
Environment	7.19± 1.77	5.10± 1.84	-0.6420
Patient care	8.12± 1.40	7.00± 1.05	-0.4714
Interpersonal	6.85± 1.54	5.86± 1.12	-0.9023

Table 4.6 Summary of differences between post-survey responses of pharmacists initiating trial prescriptions and pharmacists not initiating trial prescriptions.

[1] Total possible category score=30 and total possible question pair score=10, where question responses were: 1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5=strongly agree

[2] t-value-(44 df, p< .05, t critical = 2.02)

When analyzed in time-series format, few significant differences between pharmacists' responses at the initiation of the project and at the conclusion of the project emerged. Paired t-tests revealed only three of twenty three questions that had differing responses that were statistically significant. In all instances, the pharmacists' responses changed from relatively strong agreement with the statement to uncertainty or mild disagreement. Table 4.7 summarizes the questions where a statistically significant difference was observed.

Survey Question	Mean of pre-test responses ± SD	Mean of post-test responses ± SD	t-value ($p<0.05$)
My Group 66/66A patients benefit from trial prescriptions	4.10 ± 0.54	3.53 ± 0.94	t(18)=2.80
The physicians in my practice area will find trial prescriptions acceptable	3.75 ± 0.70	3.45 ± 0.74	t(19)=2.04
Trial prescriptions will help me to communicate more with physicians about the care that my patients receive	3.80 ± 0.75	2.53 ± 0.88	t(18)=4.96

Table 4.7. Summary of questions in which a statistically significant difference was observed in the pre-post time series format.

Seemingly, the greatest impact that the project had on pharmacists' perceptions was to generate uncertainty regarding the acceptance of trial prescriptions by physicians. Further, it appears that the initial high expectations of pharmacists that trial prescriptions would increase communication with physicians were not realized. Additionally, a minor amount of uncertainty with respect to the benefit to patients was created, possibly as a result of the observance of the large number of trial prescriptions that were completed without problems.

Drug class

The majority of trial prescriptions were for calcium channel blockers and non-steroidal anti-inflammatories. These two drug classes accounted for approximately 80 per cent of all claims. Figure 4.3 shows the distribution of trial prescription claims among drug classes.

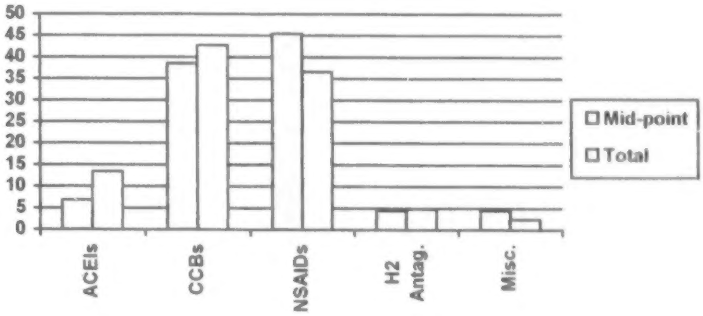


Figure 4.3 Distribution of trial prescription claims among drug classes at the mid-point and the conclusion of the project.

Rounding out the four eligible drug categories were the angiotensin converting enzyme inhibitors and histamine (H_2) blockers which accounted for 13 and 5 per cent of all trial prescription claims, respectively. There were 2 claims received in the first half of the project for medications not listed as eligible. A chi square goodness of fit test was used to test the following hypothesis:

H_O7. There are no significant differences in the rate of initiation of trial prescriptions with respect to drug class.

The results of this test revealed that the distribution of trial prescriptions was not proportionate to the total number of eligible prescriptions dispensed in each category, χ^2 (3, $\underline{N}$=3)=27.80, $\underline{p}$<.001. This indicated a significantly disproportionate number of trial prescriptions for NSAIDs and CCBs, hence, H_O7 was rejected.

Prescription claims data

Overview

A total of 82 trial prescription claims were received from twenty sites (59 per cent of participating sites) during the six months of the project. The rationale for initiating one half of these trial prescriptions was reported as cost, while thirty-seven percent were initiated due to patient history. The remaining thirteen percent of trial prescriptions were initiated for reasons other than cost or patient history. Eleven of the 82 trial prescription claims received were not completed, yielding an incompletion rate of 13.4 per cent.

Trial prescription claims received during the project adhered to guidelines, with an average days supply for the initial trial quantity of 6.94 ± 0.40 days and a mean of 6.96 ± 2.33 days between the dispensing of the initial quantity and the balance quantity. Overall, the average total drug cost for trial prescriptions was $45.65 ± 32.08 and the average total days supply was 40 ± 23.21 days. Hence, the drug split ratio of initial to balance quantity was 4 to 1. Further, the mean dispensing fee charged was $8.86 ± 2.06 for the initial trial quantity and $8.94 ± 2.49 for the balance quantity. The small difference between the two average fees was attributable to higher fees on three of the balance prescriptions due to increased drug costs, as per the sliding fee scale.

Monthly distribution of trial prescriptions

From an examination of the distribution of trial prescription claims by month, it would appear that the Trial Prescription Pilot Project generated a large amount of initial interest in pharmacists that gradually dwindled as the project continued. Figure 4.4 illustrates the observed distribution of claims by month, commencing with a high of 21 in August and culminating with a low of 8 in January. Another possible explanation may be the departure of some seniors to more southern areas for the winter months which typically creates a decrease in overall prescription volume for this age group from

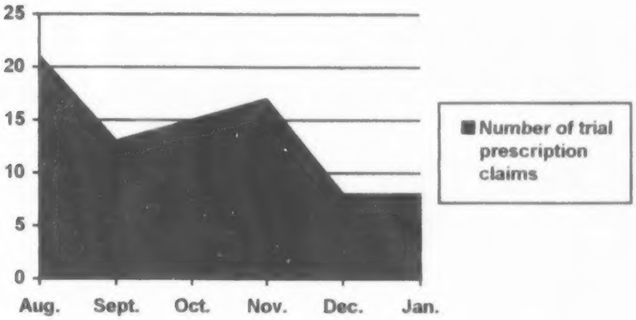


Figure 4.4 Distribution of trial prescriptions by month

December to February. (Alberta Health, 1994) Due to the low volume of trial prescriptions, however, it is difficult to unequivocally determine if this decrease in volume from project start to completion is due to one or possibly both of the aforementioned rationale.

Cost savings analysis of trial prescription claims

An analysis of the direct costs incurred and expenditures avoided by the trial prescription claims was completed to test the following hypothesis:

H_O8. The provision of trial prescriptions to the target population will result in a net savings.

The analysis revealed that $469.00 in total drug costs were avoided due to incomplete trial prescriptions while an additional cost of $573.81 in fees was incurred. After factoring in patient copayments and variable fee levels, a ***net cost*** *to the drug program of $233.53 and a* ***net savings*** *of $132.70 for patients not completing a trial prescription* were ascertained. Thus, H_O8 was rejected. It should be noted, however, that these figures represent only the direct costs avoided as a result of trial prescriptions. It is likely that indirect costs to the patient and other health care programs may have occurred as a result of these medication problems not being detected.

An analysis of net savings/costs by drug class revealed that a saving of $37.10 was obtained in trial prescriptions for histamine blockers while a net loss was seen in all other categories. A summary of the category by category analysis is presented in table 4.8.

Drug Class	Trial Rxs	Incompletions	Gross drug costs avoided	Portion of extra fees paid by the drug program	Direct cost saving (loss)	Average saving(loss) per Rx
ACEIs	11	2	$52.82	$82.38	($45.90)	($4.17)
CCBs	35	4	$182.78	$210.66	($82.90)	($2.37)
NSAIDs	31	4	$159.75	$255.44	($137.85)	($4.45)
H_2 Blockers	4	1	$73.65	$17.37	$37.10	$9.28
All Classes	82	11	$469.00	$573.81	($233.53)	($2.85)

Table 4.8 Summary of cost saving(loss) by category

Despite the savings seen in the category of histamine blockers, it would appear that the greatest potential for achieving a net cost of zero exists in the calcium channel blocker category. Because only four trial prescriptions were received for histamine blockers, the one incompletion in this category skews the results in this category significantly. As a result of this small sample of histamine blockers, data for this category is difficult to accurately quantify and must be interpreted in this context. The greater potential for cost savings in the calcium channel blockers is largely attributable to the higher average drug cost per prescription which invariably results in greater drug costs avoided in the event of incomplete trial prescriptions. This is further supported by a lower average loss per prescription for calcium channel blockers despite higher rates of incompletion of trial prescriptions observed in the ACEIs and NSAIDs. Moreover, the calcium channel blocker prescriptions had a greater average days supply than any of the other categories which resulted in a smaller proportion of the total prescription being dispensed as the trial quantity. As a result of the larger quantity dispensed as the balance quantity, greater drug costs were saved in the incomplete trial prescriptions. Hence, the overall characteristics of the calcium channel blocker trial prescriptions support an increased likelihood of cost savings.

Outcomes

Of the 82 trial prescription claims received, 11 were not completed. Four of the incomplete prescriptions were for calcium channel blockers, 4 were for non-steroidal anti-inflammatories, 2 were for angiotensin converting enzyme inhibitors and 1 was for a histamine blocker. The reasons given for not completing trial prescriptions were as follows: (1) for the ACEIs, nausea and vomiting, dizziness and lightheadedness, palpitations, and headache, (2) for the CCBs, nausea and vomiting, drowsiness and fatigue, dizziness and lightheadedness, and headache, (3) for the NSAIDs, drowsiness and fatigue, dizziness and lightheadedness, medication not effective, and patient reluctance to take the medication, and (4) for the H_2 Blockers, doctor discontinued the medication. While none of the outcomes observed in the incomplete trial prescriptions were of a life threatening nature, the potential of the adverse drug reactions detected in the incomplete trial prescriptions to impact the quality of life of the patient is evident.

Net direct costs saved by the drug program as a result of these incomplete trial prescriptions were obtained by calculating 70% of the gross drug costs avoided. This yielded a figure of $328.30. If any of the adverse drug reactions which were detected as a result of trial prescriptions had not been detected and resulted in hospitalization, the savings would invariably figure in the thousands of dollars. Because data on specific patient outcomes beyond that which occurred in the pharmacy are lacking, it is difficult to determine exact costs saved or expended due to trial prescriptions.

Projections of provincial cost-savings

An examination of the provincial summary of Group 66/66A prescription claims data for the six months of the pilot project provided estimates of the total prescription volume for the eligible medications. Using the percentages of eligible prescriptions derived from the analysis of the pilot project pharmacies, the pool of eligible prescriptions dispensed throughout the province was determined. In addition, the rates of initiation of trial prescriptions ascertained from the pilot project results were applied to the total prescription volume to determine the volume of trial prescriptions that would have been received if all pharmacies in the province had participated in the project. Table 4.9 summarizes these figures.

Drug Class	Total Prescriptions - Provincial Summary	Eligible Prescriptions	Potential Trial Prescriptions
ACEIs	121,280	14,554	206
CCBs	117,738	13,775	612
NSAIDs	69,593	12,874	452
H_2 Blockers	68,100	10,964	61
TOTAL	376,711	52,167	1,331

Table 4.9 Summary of prescription volumes-observed and projected-at the provincial level

Based on the rates of incompletion and the average drug costs obtained from the trial prescription claims, a projection of cost savings at the provincial level yields a net direct cost of $6407.01. If, however, a higher rate of incompletion was observed in the provincial scenario than the 13.4% observed in the pilot project, a trial prescription program could operate at a cost neutral level. For example, an incompletion rate of 25% yields a net direct cost of $634.67, while an incompletion rate of 30% yields a net direct saving of $1819.12. The low volume of trial prescriptions received in the pilot project make it difficult to reliably project what the overall incompletion rate would be on a larger scale. The vastly different percentages of incompletion observed on the claims received in the first half of the project and the claims received in the last half of the project, 7% and 21% respectively, illustrate the variability of these rates in a small sample. Despite the variability of the rates of incompletion, one factor is apparent. The volume of trial prescriptions which would be observed in a voluntary program would be small and, hence, the potential direct costs or savings would be relatively insignificant. If, however, all adjusted eligible prescriptions were dispensed as trial prescriptions, direct savings of $22,326.23 would be obtained if an incompletion rate of thirty percent was observed. Clearly, in order for direct savings to be realized the volume of trial prescriptions and the rate of incompletion must be greater than observed in the pilot project. Nonetheless, the magnitude of these savings will be relatively small in terms of total drug plan expenditures.

CHAPTER FIVE

DISCUSSION AND RECOMMENDATIONS

This study sought to develop a framework from which to plan, implement and evaluate a community-based clinical pharmacy initiative. The primary focus of this study, however, was to examine the ability of pharmacists to integrate trial prescriptions into their practice as a cost-saving and patient care enhancing mechanism. The results of this study were used to determine if there was justification for Alberta Health to consider the implementation of a trial prescription program as a component of prescription drug benefits for senior citizens. A cost-savings analysis and an examination of pharmacist demographic variables impacting the rate of initiation of trial prescriptions were examined to form the basis of the project evaluation. This chapter assesses the results of this study in perspective with similar research. Further, this chapter examines the implications for future initiatives of this type and concludes with recommendations for improving the project framework.

LIMITATIONS OF THE STUDY

When interpreting the results of this study and drawing conclusions, the following limitations should be considered. First, the population eligible for trial prescriptions was limited to senior citizens. As the medications consumed by other segments of the population are different from those consumed by seniors, the volume of trial prescriptions dispensed, the average drug costs of prescriptions and incompletion rates are likely to differ. As a result, the potential costs or savings associated with a trial prescription program in a younger population would likely differ from those observed in a senior population.

Second, within the senior population, the costs or savings from a trial prescription program can not accurately be estimated beyond the direct costs or savings. As the outcomes of incomplete trial prescriptions are of a hypothetical nature, it is difficult to estimate with any degree of precision the extent of the indirect costs or savings in other segments of the health care sector. In addition, it was not possible to track the utilization of other areas of the health care system by trial prescription recipients. Coupled with the lack of data about the indications for which the medications were prescribed, the ability to measure patient outcomes was limited.

Another limitation of the study lies in the manual billing system adopted for the trial prescription program. This system enabled more complete data collection on each prescription claim, but may have limited the volume of trial prescriptions initiated by pharmacists. As the dispensing and billing of all other prescriptions occurs through a computerized system, the additional time and effort required to complete a manual claim form likely deterred pharmacists from initiating trial prescriptions. The number of trial prescriptions received was small and caution should be used in generalizing the results of this study.

The extent to which the actual pool of eligible prescriptions could be determined was also limited. Prescription claim data did not include the directions for use of the medication, hence the pharmacist-entered days supply of each prescription was used to determine if the 21 day requirement was met. Frequently, this data is entered incorrectly or not at all. As a result, the days supply was estimated in a number of instances in the data analysis. This estimation may have impacted the number of prescriptions classed as eligible. Also impacting the number of prescriptions classed as eligible was the use of pharmacist-entered data regarding the status of the prescription as new or repeat. Often this data was entered incorrectly or not at all. This data was further compounded by the inability to distinguish a prescription entered as new as being a first time prescription or simply a new prescription for ongoing therapy. Again, these limitations impacted the pool of eligible prescriptions. Finally, the eligible prescription pool was impacted by the fact that prescription claims data was sorted according to pharmacy. As such, it was not possible to track the activities of patients who may have patronized more than one pharmacy. Thus, a prescription listed as new at a particular pharmacy may have been filled previously at a different pharmacy. Despite adjustments made for these limitations in the available data, the figures used to calculate these adjustments were from different studies. As data respecting the actual number of first time prescriptions and the number of patients who patronize more than one pharmacy is scarce, it is difficult to determine what the true size of the eligible prescription pool is. The limitations on the ability to accurately determine the size of the pool of eligible prescriptions further impacts the generalizability of the actual rate of initiation of trial prescriptions by pharmacists.

Finally, the potential confounding factor of physician samples was not controlled in this study. The patient population was limited and the intent of this study was to examine trial prescriptions as a pharmacist-driven initiative and controlling for physician samples was not possible. The impact of sampling on a trial prescription initiative was not measured in this study and it is difficult to assess how the parallel process of physician samples would affect the future success of a trial prescription program.

FINDINGS IN THE EVALUATION OF THE PROJECT FRAMEWORK

The first objective outlined in chapter one was to develop and assess a framework from which to plan, implement and evaluate clinical pharmacy initiatives. To fulfill this objective, feedback was sought from participants and stakeholders throughout the project and subsequent to the project's conclusion. Feedback was received in three key areas: (1) patient accessibility and eligibility, (2) program structure and guidelines, and (3) program integration and coordination. A summary of considerations for planning in these areas follows.

Patient accessibility and eligibility

Two issues surround the ability of patients to actively participate in a trial prescription program. First, the patient must be aware that the service is available to him or her. Pharmacists frequently indicated that one of the biggest problems they encountered in initiating trial prescriptions was the excessive time required to explain the service to patients. For the purposes of the pilot project, patient information regarding trial prescriptions was limited to information sheets and posters for use in the pharmacy. As a result, patients were not aware of trial prescriptions prior to arriving at the pharmacy. For the pilot project, additional publicity was left at the discretion of the participating pharmacists. At the program stage, however, ensuring public awareness of the service would enable pharmacists to devote more time to reviewing the patient profile to determine the appropriateness of the service for the patient and advising the patient of special considerations while taking the medication rather than explaining program mechanics. While the provision of information directly to the patient should in no way replace consultation with the pharmacist necessary to determine the appropriateness of a trial prescription, it would assist the patient-pharmacist interaction by providing the patient with a baseline knowledge of the service. Not only would this make more efficient use of the pharmacist's time, it would also create an informed consumer with an understanding of the service requirements and what the level of expected care should be.

The second issue surrounding the ability of the patient to actively participate in a trial prescription program is the eligibility of the patient. Only seniors with government sponsored Blue Cross coverage were eligible for the pilot project. While the literature revealed that this group of individuals is particularly vulnerable to adverse drug reactions, anecdotal reports by pharmacists indicated that the majority of these patients had long been established on chronic therapy and as a result, very few prescriptions were eligible for this type of intervention. These reports by pharmacists were further supported by prescription claims data that revealed only 14 percent of prescriptions for eligible medications were classed as new. A younger population, however, may present greater opportunities due to a larger percentage of first time prescriptions. For example, an analysis of claims data for Group 1 Blue Cross clients indicated that the number of new prescriptions was approximately 19 percent, 1.37 times the rate observed in prescriptions for seniors. If it can be assumed that a higher proportion of new prescriptions would lead to a greater number of trial prescriptions, it would appear that this population may be well-suited to trial prescriptions. Similarly, pharmacists indicated numerous times that a significant amount of interest was expressed by younger patients who were ineligible for the project. The incorporation of other patient groups into the program will not only expand the benefits of the project to other patients, it will more firmly entrench trial prescriptions as a routine component of pharmacy practice and ideally increase the rate at which pharmacists initiate trial prescriptions. Invariably, the greater the volume of trial prescriptions, the greater the benefits to the patient, the pharmacist and the payer.

Program structure and guidelines

For the most part, project guidelines were well accepted by pharmacists. There were, however, a number of issues identified by pharmacists as needing improvement. Foremost in these issues was the need for a streamlined process for adjudication of claims. As evidenced by the less than optimal response to the L'Opinion Pharmaceutique program prior to automation of procedures, participation of pharmacists in programs such as this one are significantly limited by time consuming processes. Participation in L'Opinion Pharmaceutique increased from 2 percent of all pharmacies during the twenty years that the program was in operation prior to automation to 50 percent of all pharmacies subsequent to streamlining in 1993. While participation by all pharmacists can not be expected to occur as a result of on-line adjudication of claims, the dramatic increase in participation observed in Quebec provides substantial justification for streamlining procedures. This would also remove the reluctance and intimidation some pharmacists reported experiencing due to the paperwork required to conduct a trial prescription. Moreover, it would facilitate the collection of data and be less labour intensive to process claims.

Pharmacists indicated that the list of eligible medications should be expanded to facilitate greater ease of use for physicians, pharmacists and patients. To achieve this, the ability of providers and patients to easily understand and recall eligible medications must be facilitated. While the current system of pharmacologic and therapeutic classifications of drugs may be well adapted to use by some pharmacists, a system of inclusion of medications according to therapeutic indication may be more globally accepted by physicians, pharmacists and patients. In addition, medications should ideally be selected for eligibility based on cost, risk of ADRs, need for close monitoring and/or dosage adjustment at the initiation of therapy, and suitability for dispensing as a trial quantity (i.e. birth control pills and metered dose inhalers would not be appropriate for dispensing as trial prescriptions). These types of changes to the eligible medications may enhance the ability of providers and patients to capitalize on trial prescription opportunities more frequently.

The final procedural issue was the difficulty experienced by some pharmacists with the requirements for patient follow-up at the conclusion of the trial period.

Invariably, the key to improving the quantity and quality of follow-up conducted lies in improved relations between pharmacists and physicians as well as creating new practice norms for pharmacists. Methods to enable pharmacists to conduct follow-up, such as a new software module that would permit the pharmacist to specify a time period after which a reminder notice would appear on the computer screen are currently being designed by Kroll computer systems, may improve the process. Further consultation with physicians to determine the most desirable form and content of patient follow-up may also yield solutions. During the meeting with representatives from the Alberta Medical Association, it was indicated that further discussions with their Health Issues Committee would be required to develop a format for pharmacist supplied patient follow-up. Informing patients of the need for follow-up thereby creating expectations among patients for seamless pharmaceutical care in the ambulatory setting would also positively impact the culture in which trial prescriptions exist.

Program integration and coordination

A major concern of pharmacists was the need for increased integration with prescribers. While the intent of increased integration should not be to create a system in which the pharmacist simply dispenses a trial prescription pursuant to the prescriber's orders, enhanced interactions with physicians to promote more frequent and more meaningful communications between pharmacists and physicians should be encouraged. Ultimately, the patient will receive the highest quality of care when both providers are in direct communication with the patient and each other. The findings of a study by

Kunin(1969) wholly supports the advocacy of joint efforts between physicians and pharmacists to effect change. This study attempted to assess the potential impact of a joint resolution between pharmacists and physicians to address the practice of writing prescriptions. The findings of the study were that the agreement by pharmacists and physicians on a joint resolution for change was able to positively effect the desired changes. Results of this study appear to indicate that a willingness to work jointly to improve prescription writing practices and to save money on prescription expenditures exists in both professions. It can, therefore, be reasonably concluded that change is possible if the primary stakeholders are enabled to work jointly toward an acceptable solution. Logically, the facilitation of increased meaningful communication between pharmacists and physicians coupled with the active pursuit of increased physician input into the most desirable form and content of patient-specific pharmacist feedback can only increase the effectiveness of a trial prescription program.

A second group with whom increased integration is desirable is the pharmaceutical manufacturers. One of the greatest concerns of participant pharmacists was regarding the confounding nature of the distribution of medication samples to patients by physicians. While it is not within the mandate of the trial prescription program to replace sampling, the impact of this practice on the use of trial prescriptions can not be ignored. Because trial prescriptions and physician samples are essentially parallel processes, the absence of integration between the two systems leads to duplication. Samples can greatly diminish the size of the eligible prescription pool from which trial prescriptions can be dispensed. As a result, the potential cost savings and the number of patients able to benefit from the program are decreased substantially.

Irrespective of the impact of physician samples on the number of prescriptions eligible to be dispensed as trial prescriptions, patient care issues must also be examined when comparing the merits of a pharmacy-based trial prescription system with a physician sample system. Despite the financial advantages to the patient of receiving physician samples at no cost, consideration must be given to the extent to which proper documentation and patient monitoring occur in each system. Evidence from the pilot project indicates that substantive documentation, monitoring and follow-up occurs by the pharmacist in trial prescriptions. Additionally, pharmacists are required by law to maintain a record of all medications dispensed to a patient. Conversely, the findings of a study conducted by Morelli and Koenigsberg(1992) revealed that "documentation (by physicians) of sample-medication dispensing in the medical record was incomplete. Even a minimal record of the medication, dose, and quantity dispensed were absent on over 70 percent of the records". It was also acknowledged by the authors that this lack of proper record keeping could potentially present serious liability problems as well as be detrimental to patient care. Undeniably, this supports the development of an enhanced role for pharmacists in the initial monitoring and documentation of new drug therapy. Benefits may result for patients, pharmacists, physicians and pharmaceutical manufacturers by increased involvement of the pharmacist in the initiation of drug therapy.

EVALUATION OF THE USE OF TRIAL PRESCRIPTIONS

The primary focus of this study was to evaluate the use of trial prescriptions in community pharmacy practice. In this regard, three key issues emerged: (1) the system of remuneration of pharmacists adopted for a trial prescription program will directly impact the costs or savings observed, (2) the integration of trial prescriptions into pharmacy practice will be impacted by the characteristics of the pharmacist and pharmacy in which the program operates, and (3) pharmacist perceptions and attitudes can impact the extent to which trial prescriptions are integrated and used by pharmacists. These three issues will be discussed in respect to the results observed in the study and the rationale for these results will be explored.

System of remuneration

The results of the cost saving analysis of trial prescription claims and subsequent projections indicated that the current fee structure is unlikely to yield cost-savings. In fact, the current fee structure is likely to produce a net cost, due largely to the lower than anticipated rate of incompletion and total drug cost. As a result, different fee structures have been examined. Detailed spreadsheet presentations of these various fee structures can be found in Appendix 5. These spreadsheets examine the average cost or cost-savings per prescription dispensed while maintaining the two independent variables of rate of incompletion and split of the actual acquisition cost to trial quantity and balance quantity at the levels observed in the pilot project. This equates to a 13.4 percent rate of incompletion and a split of 20 percent of the total drug cost to the trial quantity and 80 percent to the balance quantity. This type of modeling permits the examination of the average total drug cost per prescription required to attain a savings under the various fee structures. As illustrated in these spreadsheets and summarized in table 5.1, none of the proposed fee structures was able to net a cost-savings at the average total drug cost of $45.00 observed in the pilot project.

As outlined in chapter one, Alberta Health has attempted to control drug expenditures and decrease utilization by implementing five strategies. Of these strategies, the following present special challenges to the pricing of trial prescriptions: (1) adoption of a lowest cost alternative policy whereby coverage is only provided for the least expensive brand of medication, and (2) changes to the patient copayment from 20 per cent of the cost of prescriptions to 30 percent to a maximum of $25 per prescription. As a result of the 30 percent copayment made by patients, the drug plan saves 70 percent of the gross drug costs avoided. This, in conjunction with the lowest cost alternative policy of the drug program, places significant limitations on the potential cost savings from trial prescriptions. An application of the Alberta pricing arrangement to the results obtained in the British Columbia Trial Prescription Pilot Project further illustrates these points. This analysis showed that the net saving of $1684.97 realized under the British Columbia Pharmacare payment system would have resulted in a $562.84 net loss under the Alberta payment system. The $25 cap on the total patient copayment further compounds the difficulties encountered in pricing trial prescriptions equitably as it can potentially create incentives to purchase large quantities of a drug at one time. Because of this, it was critical that the pricing scheme for trial prescriptions provided incentive for the patient. This was the key factor behind designing the pricing of trial prescriptions to ensure that patients did not pay any additional costs for trial prescriptions.

The fee structure used in the pilot project was designed to ensure that there were no additional charges to the patient for receiving a trial prescription and that the pharmacist was fairly remunerated for additional services provided. In order for the drug program to realize a cost saving under this fee structure, however, an incompletion rate of 25 percent and a minimum average total drug cost of $55.00 per prescription was required. With the incompletion rate of 13.4 percent obtained in the pilot project, an average drug cost of $75.00 was required to result in a cost saving. The average total drug cost of $45.65 observed in the pilot project fell short of the required $75.00, hence a net loss occurred. On this basis, a number of alternate fee structures were examined for potential cost savings using the incompletion rate, distribution of drug cost between initial and balance quantities, and average total drug cost ascertained from pilot project data. A summary of the various fee structures is presented in table 5.1.

Description of fee structure	Incompletion rate required to break even with a total drug cost of $45.00	Total drug cost required to break even with an incompletion rate of 13.4%
Pilot project fee structure	28%	$75.00
Full fee for initial qty. and one half fee for balance qty., copay as per pilot project fee structure	17%	$60.00
Two full fees, $2 patient copay for initial qty, balance qty copay in usual manner	33%	$80.00
One and one half fees, $2 patient copay for initial qty, balance qty copay in usual manner	25%	$75.00
$7.50 fee for initial qty. and $9.70 fee for balance qty., copay as per pilot project fee structure	22%	$75.00
$7.50 fee for initial qty. and $9.70 fee for balance qty., $2 patient copay for initial qty, balance qty copay in usual manner	26%	$75.00
$7.00 for initial qty. and $9.70 fee for balance qty., copay as per pilot project fee structure	21%	$75.00
$7.00 fee for initial qty. and $9.70 fee for balance qty., $2 patient copay for initial qty, balance qty copay in usual manner	25%	$75.00

Table 5.1 Summary of the rates of incompletion required to break even with a total drug cost of $45.00 and the total drug costs required to break even with an incompletion rate of 13.4%. The split of 20% of drug cost to the initial quantity and 80% to the balance quantity was constant throughout.

The fee structures evaluated adhered to the philosophy used in the development of the fee structure used in the pilot project. Assessments were based on the ability of the fee structure to result in cost savings, provide fair remuneration for pharmacists and minimize additional costs to patients. The fee structure which provided the greatest potential for cost savings was a full fee for the initial trial quantity and one-half the fee for the balance quantity if the medication was tolerated. This structure would preserve the feature of the pilot project fee whereby the patient experiences no added expenses from a trial prescription in addition to providing an enhanced level of remuneration for the pharmacist. Another possibility is the creation of two separate fees, a dispensing fee and a trial consultation fee. This would enable the use of different fee levels for different functions. Modeling of fee structures following this rationale yielded reasonable results with a $7.00 trial consultation fee and a $9.70 dispensing fee, as per the current Blue Cross contract. While savings were not seen at the 13.4 percent rate of incompletion, a break even scenario was seen at a 20 percent rate of incompletion with savings emerging at a 25 percent rate of incompletion.

Changes to the payment system for trial prescriptions should permit the preservation of no additional patient costs and limited additional drug program expenses. The key consideration in the system of remuneration for trial prescriptions is the need for fair and meaningful payment for the pharmacist. Comments by participant pharmacists such as "Volume makes the money. I don't have time for service because I'm not paid for advice." and "It's really the physician's job to decide if someone needs a trial prescription." indicate that pharmacists did not have a clear sense of their role in conducting trial prescriptions. The fee structure may have created the perception that the second fee was intended as remuneration for the distributive functions associated with the balance quantity, rather than the patient monitoring and documentation functions outlined in the project prospectus. As such, it may be beneficial to distinguish the fees paid to pharmacists.

Fee structures in which the pharmacist would receive a trial prescription consultation fee and a trial prescription dispensing fee for the trial prescription irrespective of the trial outcome may warrant closer examination. The purpose of the trial prescription consultation fee would be to remunerate the pharmacist for the time and expertise involved in the decision-making, counseling and monitoring associated with trial prescriptions. A differential fee level would accomplish three things. First, it would distinguish the traditional distributive and consultative functions associated with the current dispensing fee from the consultative and monitoring functions associated with the trial prescription process. Second, it would provide more meaningful remuneration to the pharmacist by providing payment specific to the function performed. Third, it would disassociate the trial consultation fee from the sale of product. In the system of remuneration adopted for the pilot project, the second dispensing fee was only received in the event that the medication was tolerated. As a result, the second fee was not truly a trial consultation fee but rather a second fee for distribution because it was linked to the sale of the drug product. By providing two fees at the time of the dispensing of the trial quantity, the purposes of the fees are clearly delineated. In such a scenario, a secondary dispensing fee for the balance quantity would not be paid. This would be similar to the system of payment used in Nova Scotia in which the pharmacist received the full dispensing fee for the initial quantity and one half of the full fee for the balance quantity. As shown in table 5.1, when applied to the Alberta copayment structure, this trial prescription payment system yields the greatest potential for cost savings. If modified to the suggested differential fee levels, however, it would also provide a basis to recognize the consultative functions of the pharmacist associated with trial prescriptions.

Provider issues

The analysis of the characteristics of the pharmacists initiating trial prescriptions indicated that differences exist between the rates at which certain sub-groups of pharmacists initiate trial prescriptions. Similarly, several studies have revealed that pharmacists providing high quality and large quantities of patient-focused care can be differentiated from those who do not by certain characteristics. (Watkins et al, 1976; Dickson et al, 1975; Kirking et al, 1984; Laurier et al, 1989). Among these studies, the factors identified as impacting the quantity and quality of patient-focused care provided, included the practice environment of the pharmacist (Kirking et al, 1984; Watkins et al, 1976), the gender of the pharmacist (Laurier et al, 1989), the number of years since licensure (Kirking et al, 1984; Laurier et al, 1989) pharmacy location (Kirking et al, 1984), pharmacy staffing arrangement (Dickson et al, 1975), job title (Kirking et al, 1984; Dickson et al, 1975), as well as pharmacist attitudes and beliefs (Kirking et al, 1984; Laurier et al, 1989).

In contrast to the results obtained by Kirking et al and Watkins et al, the results of the pilot project identified the practice environment of a chain drugstore as having a positive effect on the number of trial prescriptions initiated. Further, the pharmacists' number of years in practice positively impacted the number of trial prescriptions dispensed in those pharmacists with ten years experience or less. Conversely, pharmacists who had been in practice for more than 20 years initiated significantly fewer trial prescriptions than expected. While the findings of the pilot project with were in disagreement with the findings of Kirking et al and Watkins et al, the positive effect of chain drugstores on the initiation of trial prescriptions is likely due to the fact that the pharmacists practicing in those stores were very active in their local pharmacy association in addition to having been in practice for fewer than ten years. Regarding the differences observed among pharmacists due to the number of years in practice, it was anticipated that this difference would be explained largely by the fact that as pharmacists have practiced for a longer period of time, their role tends to change from that of staff pharmacist to owner or manager. As a result, it was expected that these individuals would spend a larger amount of time on administrative tasks, thus having a reduced amount of time to spend working in the dispensary area. Despite this contention, the results of the pilot project indicated that the initiation of trial prescriptions was evenly distributed among all positions. Clearly, the reasons behind this discrepancy between less experienced and more experienced pharmacists need to be investigated further and solutions found to lessen the gap.

Several issues were presented by pharmacists during the participant interviews that provide clues to why differences exist between the rate at which pharmacists initiate trial prescriptions and why just under a third of participating pharmacists actively initiated trial prescriptions. The most frequently voiced concern was that of time constraints. The vast majority of pharmacists indicated that because of the volume of prescriptions processed at their pharmacy, the additional time necessary to provide patient care was not available to them. Despite this concern, when asked if the staffing levels in their pharmacy were adequate, almost all pharmacists asked responded that staffing was adequate. This dichotomy of responses appears to indicate that a gap exists between the pharmacists' perception of what their role in patient care is and the philosophy behind the trial prescription project. Further support for this contention exists in the often mentioned sentiment of a number of pharmacists that pharmacists should not be making the decision to initiate a trial prescription. A surprisingly greater proportion of pharmacists than anticipated expressed that physicians should be making the decision to initiate trial prescriptions and that pharmacists should simply be dispensing trial prescriptions subsequent to the physicians' orders. In addition, other pharmacists stated that it should be the patient who asks the pharmacist for a trial prescription. Clearly, some level of role confusion exists among participant pharmacists. It appears that further educational programs directed at pharmacists are warranted to encourage the formation of new practice norms among pharmacists that are consistent with the philosophy of the trial prescription program.

Implicit in the philosophy behind the creation of a trial consultation fee is the notion that if the payer is willing to remunerate pharmacists for their time, pharmacists must be willing to commit their time to providing the specified services. A study conducted by Knowlton et al (1994) ascertained that pharmacists who received an educational program intended to improve the skills of the pharmacist to initiate changes in prescriptions to result in more cost-effective pharmacotherapy and to enhance the ability of the pharmacist to communicate with patients and prescribers changed their practice procedures to intervene in the prescription process when warranted. Despite the dramatic changes observed in the study, as in the trial prescription pilot project, several barriers to the further implementation of more patient-oriented activities were identified by the pharmacists participating in the study. As in the Knowlton study, the barriers identified by pharmacists in the pilot project included time, economics of prescription re-reimbursement, pharmacy layout, pharmacists' communication skills, communication problems with physicians, and lack of clinical data about the patients. Of particular relevance to future planning for a trial prescription program, was the limitation identified by Knowlton as the simple fact that in order for pharmacists to effectively change their practice behaviours, pharmacists need to be in control of the practice-related policies and procedures governing their practice environment. This limitation may provide a possible explanation for the variable levels of participation observed in pilot project pharmacies.

presenting barriers. Ultimately, some of these barriers are beyond the scope of the stakeholders involved in the trial prescription initiative to remedy. Because program planners possess no formal authority in professional and workplace issues, developing strategies to improve these factors presents the greatest challenge to program planners. Discussions were conducted with participating pharmacists to determine if they had any suggestions as to how program organizers might work to create change in these areas. Pharmacists, however, were unable to offer any solutions to these problems. The consensus of pharmacists was that any initiatives to directly impact workplace issues such as workload, staffing levels and communication among co-workers must be left to the discretion of the individual pharmacy managers. In addition, pharmacy owners should be encouraged to work toward the development of practice environments in which pharmacists are enabled to impart greater input into the practice-related policies and procedures in their pharmacy. Moreover, pharmacists should be encouraged to work as a cohesive team and to communicate more with each other, as a number of pharmacists reported that the greatest barrier they encountered was the lack of cooperation from the other pharmacists within their pharmacy.

Pharmacist perceptions and attitudes

From the analysis of the pharmacist perception surveys, several issues arise, in addition to inconsistencies with responses given in the concluding site interviews. Despite the absence of any statistically significant differences in the responses of pharmacists who had initiated trial prescriptions and pharmacists who had not initiated trial prescriptions, both groups responded that they were uncertain as to whether they could incorporate trial prescriptions into their practice. In contrast to their uncertainty , pharmacists reported disagreement with the statement that they did not have the time to use trial prescriptions. This is even more puzzling when examined in conjunction with the responses given by pharmacists during the concluding site interviews that time constraints were the greatest barrier to using trial prescriptions. Even more intriguing are the responses received in the concluding perception survey to the statement *The level of staffing in my pharmacy is adequate most of the time.* All pharmacists agreed that staffing levels were adequate. This invariably leads one to question why time constraints played such a prominent role if staffing levels were adequate. One possible explanation may be that while pharmacists perceive that they have enough time for their usual tasks, there simply is not adequate time for enhanced responsibilities.

Another area of difference was the pre-survey and post-survey responses of pharmacists regarding the benefit of trial prescriptions to patients. At the start of the project, pharmacists agreed that patients would benefit from trial prescriptions but were uncertain of the benefit of trial prescriptions at the project's conclusion. This difference in pharmacists' responses is likely attributable to the difference between expectations and experience. It would appear that pharmacists were optimistic at the beginning of the project and became less certain of the benefit of trial prescriptions as they encountered few eligible prescriptions and even fewer trial prescriptions not completed. Another factor impacting pharmacists' perceptions of patient benefit from trial prescriptions is the fact that pharmacists may have experienced patients who accepted offers for trial prescriptions as well as patients who refused trial prescriptions. This may have resulted in pharmacists questioning the actual utility of the project to patients.

Pharmacists were also uncertain as to whether trial prescriptions had improved their communications with physicians or that trial prescriptions were acceptable to physicians in their area. These responses were in accordance with the small proportion of pharmacists who reported having had any communication whatsoever with physicians at the mid-point of the project. As pharmacists reported no appreciable change in the quantity or quality of communication with physicians, it is likely that the maintainance of the status quo in pharmacist-physician relations resulted in some pharmacist uncertainty respecting the impact of trial prescriptions on communications with physicians. Similarly, this lack of communication between pharmacists and physicians may have made it difficult for pharmacists to assess the level of physician acceptance of trial prescriptions with any degree of certainty. This conclusion respecting pharmacists' perception that trial prescriptions have not been readily accepted by physicians is consistent with the responses given in the concluding site interviews.

RECOMMENDATIONS

One of the greatest frustrations experienced by participating pharmacists was the seemingly low volume of trial prescriptions. On further examination, it was revealed that the actual pool of eligible prescriptions was substantially smaller than initially thought. As a result, some pharmacists became discouraged because they felt that their performance was substandard. While the rate of initiation could have been higher than was observed, the overly high expectations at the commencement of the project may have resulted in feelings of failure, frustration and, eventually, futility. Change can not be expected to occur immediately and as a result, the successes that will be obtained in a trial prescription program will be incremental and gradual. The apparent overnight success of the L'Opinion Pharmaceutique in Quebec was actually twenty years in the making. Likewise, the trial prescription program will require longer than 6 months to attain more substantial results. If follows that the participants must be provided with a realistic frame of reference from which to gauge their performance in order to prevent frustration and the apathy that accompanies it.

All of the methodological issues identified as problematic in the pilot project were in some way related to communications with external stakeholder groups. A cohesive, integrated approach to involving, informing, and educating consumers should be followed in future trial prescription initiatives. Central to any strategy to increase the involvement of consumers in a trial prescription program are those approaches designed for use at the community level. Coordination of these initiatives with local senior groups, pharmacists and physicians is essential to generate support for the program among those individuals directly affected by trial prescriptions. As such, the use of regional focus groups during program planning would be an effective way to generate enthusiasm among providers and consumers at an early stage in the process. Further, it would provide program planners with valuable information to design a more user-friendly program.

To better promote the initiative, the use of available print media resources would provide an inexpensive method of reaching a significant number of individuals while incorporating relevant organizations in program implementation. Publications warranting further consideration in this regard are the ACA Newsletter, DUE Quarterly and the Council's Fact Sheet. Mass mail-outs to consumers may reach a proportion of consumers involved but the expenses of mass producing a document and postage likely outweigh the benefit to be obtained from such a strategy. It is likely that at least half of the documents mailed out would be discarded without being read. Personalized, community based strategies are more apt to have a greater impact on consumers. Other printed material that may reinforce the efforts of community-based educational programs are posters and pamphlets distributed to senior centres, pharmacies and physicians' offices.

In order to create a feedback loop between program organizers and consumers, strategies that are community-based and simple to administer should be pursued. A postage-paid patient survey card limited to 3 or 4 yes/no type questions with a section for written comments should be the central component of the feedback loop. Additional feedback loops may be created through innovative methods such as the ElderNet. Further, discussions facilitated during regional focus groups and educational programs may also complete the feedback loop. This consumer feedback can then be used as a tool to provide feedback to providers.

To impact professional and attitudinal issues, pharmacists felt that strategies aimed at patients and physicians were most desirable. The intent of these strategies would be to create service expectations of pharmacists among patients and physicians. By creating expectations among the clients of pharmacists, pharmacists would be obliged to meet these expectations or lose the patronage of the client. Programs directed at assisting pharmacists to make more effective use of technical personnel, prioritizing daily activities, communication skills with patients and physicians, and identifying appropriate patients and/or situations for intervention may offer a starting point from which to begin to change pharmacists' practice procedures. It should be noted that the aforementioned strategies were preferred to legislative strategies in which requirements would be formalized as standards of practice.

With respect to systems modifications required to facilitate the automated billing of trial prescription claims, it may be beneficial to work closely with pharmacy software vendors in an expanded pilot project to develop and refine a computer-based system prior to provincial implementation. The completion of necessary modifications to software and hardware systems would eliminate the necessity for the completion of time consuming paperwork. To ensure that the system of billing and documentation is as streamlined as possible, it is essential that data requirements be critically assessed to minimize the need for the completion of time consuming processes by the pharmacist.

Finally, pharmaceutical manufacturers' input should be sought to design innovative methods to integrate the parallel systems of physician samples and trial prescriptions. While representatives of pharmaceutical manufacturers indicated in post-program discussion groups that the implementation of a trial prescription program does not mean that physician samples will be withdrawn, the need for joint efforts to better integrate the systems was stressed. As both systems share the same underlying philosophy, it may be beneficial to explore the provision of sample packages to pharmacies in a limited geographical area. The concurrent withdrawal of physician samples in the same area would permit further evaluation of the extent and nature of the impact of physician samples on a trial prescription program.

CONCLUSIONS

The Alberta Trial Prescription Pilot Project Steering Committee identified the most important goal of the project as the "fine-tuning" of the program for province wide implementation. The project has certainly attained that goal. Many strengths have been identified that should be built upon and many weaknesses needing improvement have been revealed. When the project began, little was known regarding the capacity of such a program to save money and improve patient care. As a result of the pilot project, the true potential of trial prescriptions is no longer unknown. Henceforth, expectations of the program from stakeholders and providers can be adjusted accordingly. This is critical to the future development and success of an expanded program. Further, patience must be exercised by stakeholders and providers alike during the infancy of the program. One need only be reminded that L'Opinion Pharmaceutique did not flourish until twenty years after it began. It is the belief of the author that the Alberta Trial Prescription Pilot Project was a positive step toward change in the manner in which pharmaceutical services are provided in Alberta.

Prior to the implementation of a trial prescription program, however, a number of key issues need to be addressed. Foremost are the systems requirements for the processing of trial prescription claims. As evidenced by the results of the pilot project as well as the L'Opinion Pharmaceutique program in Quebec, labour intensive documentation requirements are unlikely to be readily accepted by pharmacists. As pharmacists are the most critical limiting factor in the trial prescriptions process, it is essential that the program methodology is acceptable to them. The results of the pilot project indicate that specific pharmacist groups may require increased publicity and educational programs. Target groups include pharmacists who have been in practice for greater than 20 years, pharmacists practicing in dispensary type pharmacies, and pharmacists in really low volume and really high volume pharmacies. Additionally, it was apparent that partnerships with external stakeholder groups need to be formed at the grassroots level for program planning and implementation. The lack of interprofessional contact between pharmacists and physicians observed in this study was an area of definite concern for pharmacists and physician groups. Studies have demonstrated that the provision of trial quantities of medications are better monitored when provided through the pharmacy. Thus, this relationship needs to be encouraged in so far as possible to eliminate the duplication of services by physicians and pharmacists.

While it is inevitable that the costs to implement a provincial trial prescription program will exceed the savings realized from the program for a number of years, the potential of the program to offer enhanced patient care services at minimal cost is undeniable. As demonstrated by the results of the trial prescription pilot study and subsequent fee structure modeling, the primary consideration respecting the costs or savings to be realized from such a program is the method of payment. Further consideration must be given to the appropriate fee level with respect to the rate of incompletion, total drug cost, and the split of drug cost to the trial and balance quantities.

In order to offer the program at minimal cost, the fee structure must be carefully examined and assessed prior to implementation.

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APPENDICES

Appendix 1 - Summary of the methodological framework of the Alberta Trial Prescription Pilot Project as presented to participant pharmacists

TRIAL PRESCRIPTION- (definition)-A trial prescription is a prescription dispensed in 2 parts - an initial prescription and a balance prescription. The 'splitting' of the dispensing of the prescription is intended to permit the patient to try a small quantity of their new prescription for one of the designated medications. The 'trial quantity' provides the patient with the opportunity to find out if the new medication is or is not well tolerated, without having to purchase the entire prescription. As a result, the therapeutic outcomes of the patient may be improved and costs associated with unnecessary wastage of prescription medications are reduced.

OBJECTIVES OF THE TRIAL PRESCRIPTION PROGRAM

1. Reduce drug program costs by minimizing the wastage of prescription drugs.

2. Reduce the incidence of drug related problems, due to medications eligible to be dispensed as trial prescriptions, in Group 66/66A patients receiving a NEW prescription for the aforementioned medications.

3. Demonstrate, through appropriate documentation of trial outcomes, the efficacy of increased monitoring of new drug therapy (with the aforementioned medications) by the pharmacist to attain objectives 1 and 2.

MOST IMPORTANTLY, THE GOAL OF THE STUDY IS TO "FINE-TUNE" THE PROGRAM FOR PROVINCE-WIDE IMPLEMENTATION.

PRESCRIPTION ELIGIBILITY

1. Must be for a *NEW* drug order.

2. Total quantity of the prescription must be for *AT LEAST* a 21 day supply.

3. The medication prescribed *MUST* be from the list of eligible drugs.

4. The balance of the prescription *CAN NOT* be dispensed until the fourth day after the trial prescription has been dispensed.

5. The quantity dispensed in the trial prescription must be for a 7 day supply.

PRICING OF THE TRIAL PRESCRIPTIONS

Prescription type	*Portion of Drug Cost*	*Eligible Fee*	*Patient copay*	*Alberta Health copay*
Entire Prescription	Actual Acquisition Cost of the ENTIRE quantity.	Customary fee	30% of AAC+Fee, to a maximum of $25.00 (Copay **A**)	70% of AAC+Fee, or total Rx cost less $25.00 if 30% pt. copay exceeds $25.00.
Initial Trial Prescription	Actual Acquisition Cost of the quantity of medication dispensed in the initial trial prescription.	Customary fee	30% of AAC+Fee, to a maximum of $25.00 (Copay **B**)	70% of AAC+fee, or total Rx cost less $25.00 if 30% pt. copay exceeds $25.00.
Balance of Trial Prescription	Actual Acquisition Cost of the quantity of medication dispensed in the balance of the trial prescription	Customary fee	The difference between the patient copay if the Rx was filled in entirety and the copay paid for the initial trial Rx. (Copay **A** - Copay **B**)	(AAC of the balance of the trial Rx + Fee) minus the patient copay for the balance Rx.

NOTE: The LCA policy will be adhered to in the pilot study. If the patient selects a higher cost brand, the patient will be responsible for the AAC difference between the Alberta Health Drug Benefit List LCA price and the higher cost brand price.

METHODS OF DATA COLLECTION

Data will be gathered primarily form the manual claim form submitted for payment of trial prescriptions. Additional interviews and/or surveys will be conducted at the commencement of the study, 3 months into the study and at the conclusion of the study.

TRIAL PRESCRIPTION PILOT STUDY PHARMACIST RESPONSIBILITIES -

For dispensing a trial prescription, the pharmacist receives an additional fee to:

- Monitor the patient receiving the trial prescription in order to improve patient outcomes and decrease unnecessary wastage of prescription drugs.

- Document the rationale for initiating the trial prescription (or refusal of attempt to initiate a trial).

- Document the outcome of the trial -
    - -> completed
    - -> not completed -> why not?

ASSISTANCE TO PILOT PHARMACIES

On-site training sessions will be conducted to orient pharmacists to the pilot study and answer any questions that the pharmacists may have. These sessions will also provide pharmacists with an overview of the pilot study manual. The pilot study manual will include all pertinent information regarding the trial prescription program pilot study. Additional assistance will be available during the course of the study through Alberta Health, A.P.E.C. and Alberta Blue Cross.

Appendix 2. Eligible Drugs - Effective October 25, 1994

1. 24:00:00 Angiotensin Converting Enzyme Inhibitors (ACEI's)

1a. 24:04:00 Angiotensin Converting Enzyme Inhibitors (ACEI's) - Cardiac Drugs

Generic Name & Strength		DIN	Brand Name	MFR
1. **Captopril**	100mg tab	00893625	Apo-Capto	APX
		01942999	Novo-Captoril	NOP
		01913859	Nu-Capto	NXP
		00851655	Syn-Captopril	SYP
		00546305	Capoten	BMS
	50 mg tab	00893617	Apo-Capto	APX
		01942980	Novo-Captoril	NOP
		01913840	Nu-Capto	NXP
		00851647	Syn-Captopril	SYP
		00546291	Capoten	BMS
	25 mg tab	00893609	Apo-Capto	APX
		01942972	Novo-Captoril	NOP
		01913832	Nu-Capto	NXP
		00851833	Syn-Captopril	SYP
		00546283	Capoten	BMS
	12.5mg tab	00893595	Apo-Capto	APX
		01942964	Novo-Captoril	NOP
		01913824	Nu-Capto	NXP
		00851639	Syn-Captopril	SYP
		00695661	Capoten	BMS
2. **Enalapril maleate**	20mg tab	02019906	Apo-Enalapril	APX
		00670928	Vasotec	FRS
	10mg tab	02019892	Apo-Enalapril	APX
		00670901	Vasotec	FRS
	5 mg tab	02019884	Apo-Enalapril	APX
		00708879	Vasotec	FRS
	2.5mg tab	02020025	Apo-Enalapril	APX
		00851795	Vasotec	FRS

3. **Lisinopril**	20mg tab	00839418	Prinivil	MSD
		00839337	Zestril	ZEN
	10mg tab	00839396	Prinivil	MSD
		00839329	Zestril	ZEN
	5 mg tab	00839388	Prinivil	MSD
		00839442	Zestril	ZEN
4. **Fosinopril sodium**	20mg tab	01907107	Monopril	BMS
	10mg tab	01907115	Monopril	BMS
5. **Quinapril HCl**	40mg tab	01947669	Accupril	PDA
	20mg tab	01947680	Accupril	PDA
	10mg tab	01947672	Accupril	PDA
	5 mg tab	01947664	Accupril	PDA

1b. **24:08:00 Angiotensin Converting Enzyme Inhibitors (ACEI's) - Hypotensive Agents**

6. **Benazepril HCl**	5 mg tab	00885835	Lotensin	CIB
	10 mg tab	00885843	Lotensin	CIB
	20 mg tab	00885851	Lotensin	CIB
7. **Cilazapril**	1 mg tab	01911465	Inhibace	HLR
	2.5 mg tab	01911473	Inhibace	HLR
	5 mg tab	01911481	Inhibace	HLR
8. **Ramipril**	1.25 mg cap	02050943	Altace	HRU
	2.5 mg cap	02050951	Altace	HRU
	5 mg cap	02050978	Altace	HRU
	10 mg cap	02050986	Altace	HRU

2. 24:04:00 Calcium Channel Blockers (CCB's)

1. **Amlodipine besylate**	10mg tab	00878936	Norvasc	PFI
	5 mg tab	00878928	Norvasc	PFI
2. **Diltiazem HCL**	300 mg CD cap	01917072	Cardizem CD	MER
	240 mg CD cap	01917072	Cardizem CD	MER
	180 mg CD cap	02009315	Cardizem CD	MER
	120 mg CD cap	02009323	Cardizem CD	MER
	120mg SR cap	00728330	Cardizem SR	NRD
	90mg SR cap	00728322	Cardizem SR	NRD
	60mg SR cap	00728314	Cardizem SR	NRD
	60mg tab	00771384	Apo-Diltiaz	APX
		00886076	Nu-Diltiaz	NXP
		00862932	Novo-Diltiazem	NOP
		00888532	Syn-Diltiazem	SYP
		00587761	Cardizem	NRD
	30mg tab	00771376	Apo-Diltiaz	APX
		00886068	Nu-Diltiaz	NXP
		00862924	Novo-Diltiazem	NOP
		00888524	Syn-Diltiazem	SYP
		00587753	Cardizem	NRD
3. **Nifedipine**	60 mg XL tab	01913158	Adalat XL	MLE
	30 mg XL tab	01913131	Adalat XL	MLE
	20mg SR tab	00692735	Adalat PA	MLE
	10mg SR tab	00692727	Adalat PA	MLE

	10mg cap	00755907	Apo-Nifed	APX
		00756830	Novo-Nifedin	NOP
		00805591	Nu-Nifed	NXP
		01946307	Gen-Nifedipine	GPM
		00557633	Adalat	MLE
	5mg cap	02047462	Novo-Nifedin	NOP
		00725110	Apo-Nifed	APX
		00613258	Adalat	MLE
4. **Nicardipine HCL**	30mg cap	00791709	Cardene	SYN
	20mg cap	00791695	Cardene	SYN
5. **Felodipine**	10mg ER tab	00864021	Renedil	HRU
		00851787	Plendil	AST
	5mg ER tab	00851779	Plendil	AST
		00864013	Renedil	HRU
	2.5 mg ER tab	02057778	Plendil	AST
		02057786	Renedil	HRU
6. **Verapamil HCL**	240mg SR tab	00742554	Isoptin SR	SEA
	180mg SR tab	01934317	Isoptin SR	SEA
	120mg SR tab	01907123	Isoptin SR	SEA
	120mg tab	00782491	Apo-Verap	APX
		00812358	Novo-Veramil	NOP
		00867373	Verapamil HCL	KNR
		00886041	Nu-Verap	NXP
		00554324	Isoptin	SEA
	80mg tab	00812331	Novo-Veramil	NOP
		00867365	Verapamil HCL	KNR
		00782483	Apo-Verap	APX
		00886033	Nu-Verap	NXP
		00554316	Isoptin	SEA

3. 28:08:04 Nonsteroidal anti-inflammatory agents (NSAID's)

1. **Diclofenac**	100 mg SR tab	02048698	Novo-difenac SR	NOP
		00590827	Voltaren SR	GEI
	75 mg SR tab	0078459	Voltaren SR	GEI
	50 mg EC tab	00839183	Apo-Diclo	APX
		00808547	Novo-Difenac	NOP
		00886025	Nu-Diclo	NXP
		00514012	Voltaren	GEI
	25 mg EC tab	00839175	Apo-Diclo	APX
		00808539	Novo-Difenac	NOP
		00886017	Nu-Diclo	NXP
		00514004	Voltaren	GEI
2. **Indomethacin**	75mg SR cap	00463248	Indocid SR	MSD
	50mg cap	00611166	Apo-Indomethacin	APX
		00337439	Novo-Methacin	NOP
		00865869	Nu-Indo	NXP
		00016047	Indocid	MSD
	25mg cap	00611158	Apo-Indomethacin	APX
		00337420	Novo-Methacin	NOP
		00865850	Nu-Indo	NXP
		00016039	Indocid	MSD
3. **Ketoprofen**	200mg SR tab	01926373	Orudis SR	RPR
	50mg EC tab	00790435	Apo-Keto-E	APX
		01981528	Novo-Keto-EC	NOP
		00761672	Rhodis EC-50	ROD
		01926381	Orudis E-50	RPR
	100mg EC tab	00761680	Rhodis EC-100	ROD
		00842664	Apo-Keto-E	APX
		01981536	Novo-Keto-EC	NOP
		01926365	Orudis E-100	RPR

	50mg cap	00790427	Apo-Keto	APX
		00761664	Rhodis	ROD
		01926403	Orudis	RPR
	200mg SR cap	01913069	Oruvail	MBA
	150mg SR cap	01913050	Oruvail	MBA
4. **Tiaprofenic acid**	300mg SR cap	01989790	Surgam SR	HRU
	300mg tab	01924621	Tiafen	ABT
		00589934	Surgam	HRU
	200mg tab	01924613	Tiafen	ABT
		00589926	Surgam	HRU
5. **Piroxicam**	20mg cap	00642894	Apo-Piroxicam	APX
		00695696	Novo-Pirocam	NOP
		00865788	Nu-Pirox	NXP
		00525618	Feldene	PFI
	10mg cap	00695718	Novo-Pirocam	NOP
		00865761	Nu-Pirox	NXP
		00642886	Apo-Piroxicam	APX
		00525596	Feldene	PFI
6. **Sulindac**	200mg tab	00778362	Apo-Sulin	APX
		00745596	Novo-Sundac	NOP
		00432369	Clinoril	FRS
	150mg tab	00778354	Apo-Sulin	APX
		00745588	Novo-Sundac	NOP
		00456888	Clinoril	FRS
7. **Tenoxicam**	20mg tab	00884367	Mobiflex	HLR

4. 56:40:00 H_2 (Histamine) Blockers

1. **Ranitidine**	300mg cap	00849448	Zantac-C	GLA
	150mg cap	00849421	Zantac-C	GLA
	300mg tab	00733067	Apo-Ranitidine	APX
		00828556	Novo-Ranidine	NOP
		00865745	Nu-Ranit	NXP
		00828688	Ranitidine	KNR
		00641790	Zantac	GLA
	150mg tab	00733059	Apo-Ranitidine	APX
		00828564	Novo-Ranidine	NOP
		00865737	Nu-Ranit	NXP
		00828823	Ranitidine	KNR
		00553379	Zantac	GLA
2. **Famotidine**	40mg tab	01953834	Apo-Famotidine	APX
		02022141	Novo-Famotidine	NOP
		02024209	Nu-Famotidine	NXP
		00710113	Pepcid	MSD
	20mg tab	01953842	Apo-Famotidine	APX
		02022133	Novo-Famotidine	NOP
		02024195	Nu-Famotidine	NXP
		00710121	Pepcid	MSD
3. **Nizatidine**	300mg cap	00778346	Axid	LIL
	150mg cap	00778338	Axid	LIL
4. **Cimetidine**	800mg tab	00749494	Apo-Cimetidine	APX
		00663727	Novo-Cimetine	NOP
		00618616	Peptol	HOR
	600mg tab	00600067	Apo-Cimetidine	APX
		00603686	Novo-Cimetine	NOP
		00865834	Nu-Cimet	NXP
		00584282	Peptol	HOR
		01916777	Tagamet	SMJ

400mg tab	00600059	Apo-Cimetidine	APX
	00603678	Novo-Cimetine	NOP
	00865826	Nu-Cimet	NXP
	00568449	Peptol	HOR
	01916785	Tagamet	SMJ
300mg tab	00487872	Apo-Cimetidine	APX
	00582417	Novo-Cimetine	NOP
	00865818	Nu-Cimet	NXP
	00546240	Peptol	HOR
	01916815	Tagamet	SMJ
200mg tab	00582409	Novo-Cimetine	NOP
	00865796	Nu-Cimet	NXP
	00584215	Apo-Cimetidine	APX
	00546232	Peptol	HOR

Appendix 3-A - Pharmacist Mid-point Telephone Interview

Hello, this is Karen Sullivan from Alberta Health calling. Could I speak to the pharmacist on duty? *(If already speaking to the pharmacist, proceed with the rest of intro. If not the pharmacist, re-introduce self once pharmacist on the line then proceed with rest of intro.)* I'm calling in regard to the Trial Prescription Pilot Study, to see how everything is going for you and to ask you a few questions. Altogether, it should take about 10 minutes of your time. Before we begin, I'd like to ask if this is a convenient time for you. If it isn't, is there a better time when I could call you back? *If yes, specify*______________________

1. Have you had the opportunity to conduct any trial prescriptions?

Yes -*if yes, proceed*
No -*if no, proceed with questions 2 & 3, then go to questions 6, 8 & 10 only.*

2. Patient response-

2a. The patients who you suggested trial prescriptions to were for the most part agreeable, disagreeable or neutral to the concept of a trial prescription.

Agreeable
Disagreeable
Neutral

2b. The concept of a trial prescription was very easy, moderately easy or difficult for your patients to understand.

Very easy
Moderately easy
Difficult

3. Physician response-

3a. Have you had any direct contact with a prescribing physician regarding a trial prescription?

Yes - *go to question 3b*
No - *go to question 4*

3b. The physician(s) you have spoken with regarding trial prescriptions have been in favour of trial prescriptions, opposed to trial prescriptions or did not express any opinion.

In favour of trial prescriptions
Opposed to trial prescriptions
Did not express any opinion

4. Demands on the pharmacist's time-

4a. Trial prescriptions always take too much of your time, sometimes take too much of your time or never take too much of your time.

Always take too much time
Sometimes take too much time
Never take too much time

If answer is either always or sometimes take too much time, which parts?
Paperwork/Documentation
Explaining it to the patient
Follow-up with the patient
Talking to the prescriber
If answer is sometimes take too much time, is this only when you get a busy rush?

4b. The amount of time required to complete a trial prescription is a deterrent , is not a deterrent to you initiating a trial prescription.

Is a deterrent
Is not a deterrent

5. Method of payment-

5a. The fee structure is easy to use, complex but understandable or extremely confusing.

Easy to use
Complex but understandable
Extremely complicated

5b. The special billing form is easy to use, complex but understandable or extremely confusing.

Easy to use
Complex but understandable
Extremely complicated

6. Eligible drugs-

6a. The drugs eligible for the trial prescription pilot study were appropriate, inappropriate or don't know.

Appropriate
Inappropriate
Don't know
*If inappropriate, ask to specify why inappropriate*______________________

6b. Did you find the list of eligible medications to be helpful, not helpful or not sure.

Helpful
Not helpful
Not sure

6c. Do you have any suggestions for additional drugs to include as eligible products?______
____

6d. Are there any drugs that are currently eligible that you would like to see excluded?______
____

7. Prscription eligibility criteria-

7a. The criteria for deciding if a prescription was eligible to be dispensed as a trial prescription was easy to understand, complex but understandable or extremely confusing.

Easy to understand
Complex but understandable
Extremely confusing

*If extremely confusing, ask to specify which parts*______________________________
____

7b. Did you find the prescription eligibility criteria to be appropriate or inappropriate?

Appropriate
Inappropriate

8. Communications-

8a. Did you find the manual provided to be very helpful, somewhat helpful or not helpful at all?

Helpful
Somewhat helpful
Not helpful at all

8b. Was the information provided in the manual very comprehensive, adequate or insufficient?

Very comprehensive
Adequate
Insufficient

*If insufficient, ask to specify in which areas*______________________________
____

8c. The manual was very easy to use, moderately easy to use or very confusing.

Very easy to use
Moderately easy to use
Very confusing

*If very confusing, ask to specify which parts*____
____

8d. Did you ever have to call for additional information? **Y N**
If no, proceed to question 9.

8e. Did you know who to call if you needed additional help or had questions? **Y N**

8f. Were you able to or not able to get the answers you needed when you needed them?

Was able to
Was not able to

9. Forms and documentation-

9a. The quantity of supplies you received was more than adequate, adequate or inadequate.

More than adequate
Adequate
Inadequate

9b. I am now going to ask you to rate the supplemtary forms and materials supplied to you. After naming each form, I will ask you to respond to the same series of questions for each.

ia. The Patient Reminder cards are or are not a helpful resource to explain the project to patients.

Are
Are not

ib. The patient reminder cards are or are not well received by patients.

Are
Are not

iia. The patient tear-off sheets are or are not a helpful resource to explain the project to patients.

Are
Are not

iib. The patient tear-off sheets are or are not well received by the patients.

Are
Are not

iiia. The posters are or are not a helpful resource to explain the project to patients.

Are
Are not

iiib. The posters are or are not well received by patients.

Are
Are not

iva. The laminated checklist is or is not a helpful reference for the pharmacist.

Is
Is not

va. The Trial Refusal Summary form is or is not straight forward and easy to use.

Is
Is not

10. Overall satisfaction -
10a. Things that you would like to see changed about the Trial Prescription Project are:

10b. The areas of the Trial Prescription Project that you are most satisfied about are:

That's all of the questions that I have. Did you have any other questions or concerns that I could be of assistance with? I thank you for your time and look forward to speaking with you again in the future.

Appendix 3-B: TRIAL PRESCRIPTION PROJECT CONCLUDING SITE INTERVIEWS

1. Please characterize the objectives of the project.

2. Describe your role in the project.

3. How does your practice environment affect your role in the project?

4. How do your personal pharmacy practice habits affect your role in the project?

5. Could you characterize the patients whom you approached regarding trial prescriptions and/or their response to the project?

6. What were the reasons expressed by patients for not getting a trial prescription?

7. How did project guidelines fit with the objectives of the project?

8. Describe areas of the project you were happy with.

9. Describe areas of the project that you were unhappy with.

Appendix 3-C. Trial Prescription Pilot Study Pharmacist Perception Survey

Circle the number to the right of the statement which corresponds to your opinion or perception of the preceding statement.

Strongly Disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly Agree=5

	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
1. My practice environment is well-suited to pharmaceutical care.	1	2	3	4	5
2. I am often too busy to spend as much time with my patients as I would like to.	1	2	3	4	5
3. It is very important to me to make sure that my patients receive appropriate therapy.	1	2	3	4	5
4. I am concerned about the outcome of my patients' therapies.	1	2	3	4	5
5. I frequently consult with physicians about patients' drug therapies. (other than technical errors in writing a prescription)	1	2	3	4	5
6. I frequently consult with my patients about their drug therapies.	1	2	3	4	5
7. My practice environment is well-suited to dispensing trial prescriptions.	1	2	3	4	5
8. Trial prescriptions will be a hassle for me to dispense.	1	2	3	4	5
9. My Group 66/66A patients will benefit from a trial prescription.	1	2	3	4	5
10. Trial prescriptions will not affect the outcomes of my patients' therapies.	1	2	3	4	5
11. My patients will be agreeable to trial prescriptions.	1	2	3	4	5
12. The physicians in my practice area will find trial prescriptions acceptable.	1	2	3	4	5

	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
13. I can easily incorporate trial prescriptions into my pharmacy practice.	1	2	3	4	5
14. I do not have the time to use trial prescriptions.	1	2	3	4	5
15. Trial prescriptions will enable me to practice pharmaceutical care more often.	1	2	3	4	5
16. Dispensing trial prescriptions is a good way for me to improve the quality of care that I provide to my patients.	1	2	3	4	5
17. Trial prescriptions will help me to communicate better with patients about the care they receive.	1	2	3	4	5
18. Trial prescriptions will help me to communicate more with physicians about the care that my patients receive.	1	2	3	4	5
19. Pharmacists are adequately paid for trial prescriptions.	1	2	3	4	5
20. Trial prescriptions will enable pharmacists in general to play a role in reducing drug program costs.	1	2	3	4	5
21. Trial prescriptions are priced fairly for patients.	1	2	3	4	5
22. I agree with the concept of a trial prescription.	1	2	3	4	5
23. Pharmacists are the most appropriate health care professional to provide trial prescriptions to patients.	1	2	3	4	5

YEARS IN PRACTICE______ **LEVEL OF EDUCATION**______________
(IE. B.Sc.Pharm, Residency, M.Pharm, M.Sc., PharmD, etc.)

POSITION________________________________ **SEX** M F
(IE. Owner, pharmacy manager, full-time staff, part-time staff, etc.)

Appendix 3-D: Trial Prescription Pilot Study Concluding Pharmacist Survey

Circle the number to the right of the statement which corresponds to your opinion or perception of the preceding statement.

Strongly Disagree=1 Disagree=2 Not sure=3 Agree=4 Strongly Agree=5

	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
1. I believe that pharmaceutical care is an integral part of the practice of pharmacy.	1	2	3	4	5
2. My practice environment is well-suited to pharmaceutical care.	1	2	3	4	5
3. Trial prescriptions are a hassle for me to dispense.	1	2	3	4	5
4. The pharmacists I work with are supportive of the concept of pharmaceutical care.	1	2	3	4	5
5. I am often too busy to spend as much time with my patients as I would like to.	1	2	3	4	5
6. It is very important to me to make sure that my patients receive appropriate therapy.	1	2	3	4	5
7. I believe that pharmacists in the future will be paid for services other than dispensing.	1	2	3	4	5
8. I am concerned about the outcome of my patients' therapies.	1	2	3	4	5
9. I frequently consult with physicians about patients' drug therapies. (other than technical errors in writing a prescription)	1	2	3	4	5
10. The practice of pharmacy is changing and in order to keep pace, I must change the way that I practice pharmacy.	1	2	3	4	5

	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
11. My practice environment is well-suited to dispensing trial prescriptions.	1	2	3	4	5
12. My Group 66/66A patients have benefited from trial prescriptions.	1	2	3	4	5
13. Dispensing trial prescriptions is a good way for me to improve the quality of care that I provide to my patients.	1	2	3	4	5
14. Trial prescriptions have helped me to communicate better with patients about the care they receive.	1	2	3	4	5
15. I believe that the integration of pharmaceutical care into community pharmacy practice is essential for the advancement of pharmacy.	1	2	3	4	5
16. Trial prescriptions have helped me to communicate more with physicians about the care that my patients receive.	1	2	3	4	5
17. Pharmacists are adequately paid for trial prescriptions.	1	2	3	4	5
18. Trial prescriptions enable pharmacists in general to play a role in reducing drug program costs.	1	2	3	4	5
19. Trial prescriptions are priced fairly for patients.	1	2	3	4	5
20. I agree with the concept of a trial prescription.	1	2	3	4	5
21. Pharmacists are the most appropriate health care professional to provide trial prescriptions to patients.	1	2	3	4	5

	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
22. Trial prescriptions do not affect the outcomes of my patients' therapies.	1	2	3	4	5
23. My patients are agreeable to trial prescriptions.	1	2	3	4	5
24. The physicians in my practice area will find trial prescriptions acceptable.	1	2	3	4	5
25. I can easily incorporate trial prescriptions into my pharmacy practice.	1	2	3	4	5
26. I do not have the time to use trial prescriptions.	1	2	3	4	5
27. Trial prescriptions will enable me to practice pharmaceutical care more often.	1	2	3	4	5
28. I frequently consult with my patients about their drug therapies.	1	2	3	4	5
29. The level of staffing in my pharmacy is adequate most of the time.	1	2	3	4	5

YEARS IN PRACTICE_____

AVERAGE NUMBER OF HOURS SPENT DISPENSING PER WEEK_______

DID YOU INITIATE ANY TRIAL PRESCRIPTIONS? YES_____ NO____

DID YOU COMPLETE THE PRE AND MID SURVEYS? YES____ NO____

Appendix 4- Strategies for increased consumer involvement

Printed media

- The ACA (Alberta Council on Aging) Newsletter- This newsletter is published every two months. It reaches seniors and senior centres throughout the province.

- DUE Quarterly- This newsletter is circulated to physicians, pharmacists and seniors. It may be an effective means to reach patients and providers simultaneously.

- A mass mail-out of information sheets to all senior Blue Cross subscribers.

- Press releases directed at the local media in various regions.

- Posters and pamphlets for display and distribution in seniors' centres, pharmacies and doctors' offices.

- Council's Fact Sheet (Newsletter of the Seniors' Advisory Council)- This newsletter is distributed to approximately 4000 individuals including health units, senior centres and health care professionals.

Associated organizations

- Public health and home care programs- These program work closely with seniors, specifically in assisting seniors with their medications in an ambulatory setting. By informing these individuals of the program it would be a natural liaison with the role of public health and home care.

- Senior lodges through the ASHA (Alberta Senior Citizens Homes Association)- Approximately 8000 individuals reside in senior lodges so activities directed at the ASHA would reach a significant number of individuals.

- Wellness Programs- A significant number of seniors participate in these programs, thus it may provide another mechanism to reach seniors.

- Senior centres, local seniors organizations- Senior centres and senior organizations exist in nearly every community in Alberta. These organizations have a significant presence in communities and may provide an effective means to publicize the program at a grassroots level.

- Outreach coordinators- Most senior centres have an outreach coordinator who works directly with seniors in the community. This individual may be an effective means to reach seniors on a more personal level.

Other approaches

•ElderNet- This is currently being developed by Grant MacEwan Community College in conjunction with the Alberta Council on Aging. It provides InterNet access for seniors and may provide a mechanism for the distribution of information as well as the creation of a feedback loop.

•Television and media interviews- This was suggested as a means of reaching seniors who are not readily able to leave their homes.

•Telephone information line- This was suggested as a means to provide seniors with a more personal outlet to obtain additional information.

•Regional focus groups- If held in conjunction with pharmacists and physicians, focus groups may provide a grassroots means of disseminating information, obtaining input and promoting increased communication between providers and patients.

•Regional educational seminars- Like the focus groups described above, these educational seminars should involve local pharmacists and physicians. The objective of these seminars would be to promote the program while creating an informed consumer of care.

APPENDIX 5:
FEE STRUCTURE MODELLING

DRUG ACTUAL ACQUISTION COST COMPARED WITH ADDITIONAL FEES FROM TRIAL PRESCRIPTIONS (AAC 1/5 TRIAL/ 4/5 BALANCE)
MINIMUM REQUIRED TO GENERATE COST-SAVINGS @ 30%/TPP WITH 30%/$25 MAX. COPAY, TWO FEES

TOTAL DRUG COST	FEE IF NOT TRIALED	ABC COPAY (30%/$25)	PATIENT COPAY (30%/$25)	FEES IF TRIALED	PATIENT COPAY @ 30% TRIA	ABC COPAY FOR TRIA	PATIENT COPAY FOR BAL.	ABC COPAY FOR BAL.	TOTAL ABC COPAY (13.4% INC./86.6% COM.)	SAVINGS (AVE. PER PRESCRIPT'N	ADDIT'NL COST TO PATIEI
30	9.70	27.79	11.91	19.40	4.71	10.99	7.20	26.50	33.94	-6.15	0.00
35	9.70	31.29	13.41	19.40	5.01	11.69	8.40	29.30	37.06	-5.77	0.00
40	9.70	34.79	14.91	19.40	5.31	12.39	9.60	32.10	40.19	-5.40	0.00
45	9.70	38.29	16.41	19.40	5.61	13.09	10.80	34.90	43.31	-5.02	0.00
50	9.70	41.79	17.91	19.40	5.91	13.79	12.00	37.70	46.44	-4.65	0.00
55	9.70	45.29	19.41	19.40	6.21	14.49	13.20	40.50	49.56	-4.27	0.00
60	9.70	48.79	20.91	19.40	6.51	15.19	14.40	43.30	52.69	-3.90	0.00
65	9.70	52.29	22.41	19.40	6.81	15.89	15.60	46.10	55.81	-3.52	0.00
70	9.70	55.79	23.91	19.40	7.11	16.59	16.80	48.90	58.94	-3.15	0.00
75	14.70	64.70	25.00	19.40	7.41	17.29	17.59	52.11	62.42	2.28	0.00
80	14.70	69.70	25.00	19.40	7.71	17.99	17.29	56.41	66.84	2.86	0.00
85	14.70	74.70	25.00	19.40	8.01	18.69	16.99	60.71	71.26	3.44	0.00
90	14.70	79.70	25.00	19.40	8.31	19.39	16.69	65.01	75.69	4.01	0.00
95	14.70	84.70	25.00	19.40	8.61	20.09	16.39	69.31	80.11	4.59	0.00
100	14.70	89.70	25.00	19.40	8.91	20.79	16.09	73.61	84.54	5.16	0.00
105	14.70	94.70	25.00	19.40	9.21	21.49	15.79	77.91	88.96	5.74	0.00
110	14.70	99.70	25.00	19.40	9.51	22.19	15.49	82.21	93.38	6.32	0.00
115	14.70	104.70	25.00	24.40	9.81	22.89	15.19	91.51	102.14	2.56	0.00
120	14.70	109.70	25.00	24.40	10.11	23.59	14.89	95.81	106.56	3.14	0.00
125	14.70	114.70	25.00	24.40	10.41	24.29	14.59	100.11	110.99	3.71	0.00
130	14.70	119.70	25.00	24.40	10.71	24.99	14.29	104.41	115.41	4.29	0.00
135	14.70	124.70	25.00	24.40	11.01	25.69	13.99	108.71	119.83	4.87	0.00
140	14.70	129.70	25.00	24.40	11.31	26.39	13.69	113.01	124.26	5.44	0.00
145	14.70	134.70	25.00	24.40	11.61	27.09	13.39	117.31	128.68	6.02	0.00
150	19.70	144.70	25.00	24.40	11.91	27.79	13.09	121.61	133.10	11.60	0.00
155	19.70	149.70	25.00	24.40	12.21	28.49	12.79	125.91	137.53	12.17	0.00
160	19.70	154.70	25.00	24.40	12.51	29.19	12.49	130.21	141.95	12.75	0.00
165	19.70	159.70	25.00	24.40	12.81	29.89	12.19	134.51	146.38	13.32	0.00
170	19.70	164.70	25.00	24.40	13.11	30.59	11.89	138.81	150.80	13.90	0.00
175	19.70	169.70	25.00	24.40	13.41	31.29	11.59	143.11	155.22	14.48	0.00
180	19.70	174.70	25.00	24.40	13.71	31.99	11.29	147.41	159.65	15.05	0.00
185	19.70	179.70	25.00	24.40	14.01	32.69	10.99	151.71	164.07	15.63	0.00
190	19.70	184.70	25.00	24.40	14.31	33.39	10.69	156.01	168.49	16.21	0.00
195	19.70	189.70	25.00	24.40	14.61	34.09	10.39	160.31	172.92	16.78	0.00
200	19.70	194.70	25.00	24.40	14.91	34.79	10.09	164.61	177.34	17.36	0.00

DRUG ACTUAL ACQUISTION COST COMPARED WITH ADDITIONAL FEES FROM TRIAL PRESCRIPTIONS (AAC 1/5 TRIAL/ 4/5 BALANCE)
MINIMUM REQUIRED TO GENERATE COST-SAVINGS @ 30%/TPP WITH 30%/$25 MAX. COPAY, ONE & ONE-HALF FEES

TOTAL DRUG COST	FEE IF NOT TRIALED	ABC COPAY (30%/$25)	PATIENT COPAY (30%/$25)	FEES IF TRIALED	PATIENT COPAY @ 30% TRIAL	ABC COPAY FOR TRIAL	PATIENT COPAY FOR BAL.	ABC COPAY FOR BAL.	TOTAL ABC COPAY (13.4% INC./86.6% COM.)	SAVINGS (AVE. PER PRESCRIPT'N)	ADDIT'NL COST TO PATIE
30	9.70	27.79	11.91	14.55	4.71	10.99	7.20	21.65	29.74	-1.95	0.00
35	9.70	31.29	13.41	14.55	5.01	11.69	8.40	24.45	32.86	-1.57	0.00
40	9.70	34.79	14.91	14.55	5.31	12.39	9.60	27.25	35.99	-1.20	0.00
45	9.70	38.29	16.41	14.55	5.61	13.09	10.80	30.05	39.11	-0.82	0.00
50	9.70	41.79	17.91	14.55	5.91	13.79	12.00	32.85	42.24	-0.45	0.00
55	9.70	45.29	19.41	14.55	6.21	14.49	13.20	35.65	45.36	-0.07	0.00
60	9.70	48.79	20.91	14.55	6.51	15.19	14.40	38.45	48.49	0.30	0.00
65	9.70	52.29	22.41	14.55	6.81	15.89	15.60	41.25	51.61	0.68	0.00
70	9.70	55.79	23.91	14.55	7.11	16.59	16.80	44.05	54.74	1.05	0.00
75	14.70	64.70	25.00	14.55	7.41	17.29	17.59	47.26	58.22	6.48	0.00
80	14.70	69.70	25.00	14.55	7.71	17.99	17.29	51.56	62.64	7.06	0.00
85	14.70	74.70	25.00	14.55	8.01	18.69	16.99	55.86	67.06	7.64	0.00
90	14.70	79.70	25.00	14.55	8.31	19.39	16.69	60.16	71.49	8.21	0.00
95	14.70	84.70	25.00	14.55	8.61	20.09	16.39	64.46	75.91	8.79	0.00
100	14.70	89.70	25.00	14.55	8.91	20.79	16.09	68.76	80.34	9.36	0.00
105	14.70	94.70	25.00	14.55	9.21	21.49	15.79	73.06	84.76	9.94	0.00
110	14.70	99.70	25.00	14.55	9.51	22.19	15.49	77.36	89.18	10.52	0.00
115	14.70	104.70	25.00	19.55	9.81	22.89	15.19	84.16	95.77	8.93	0.00
120	14.70	109.70	25.00	19.55	10.11	23.59	14.89	88.46	100.20	9.50	0.00
125	14.70	114.70	25.00	19.55	10.41	24.29	14.59	92.76	104.62	10.08	0.00
130	14.70	119.70	25.00	19.55	10.71	24.99	14.29	97.06	109.04	10.66	0.00
135	14.70	124.70	25.00	19.55	11.01	25.69	13.99	101.36	113.47	11.23	0.00
140	14.70	129.70	25.00	19.55	11.31	26.39	13.69	105.66	117.89	11.81	0.00
145	14.70	134.70	25.00	19.55	11.61	27.09	13.39	109.96	122.32	12.38	0.00
150	19.70	144.70	25.00	19.55	11.91	27.79	13.09	114.26	126.74	17.96	0.00
155	19.70	149.70	25.00	19.55	12.21	28.49	12.79	118.56	131.16	18.54	0.00
160	19.70	154.70	25.00	19.55	12.51	29.19	12.49	122.86	135.59	19.11	0.00
165	19.70	159.70	25.00	19.55	12.81	29.89	12.19	127.16	140.01	19.69	0.00
170	19.70	164.70	25.00	19.55	13.11	30.59	11.89	131.46	144.43	20.27	0.00
175	19.70	169.70	25.00	19.55	13.41	31.29	11.59	135.76	148.86	20.84	0.00
180	19.70	174.70	25.00	19.55	13.71	31.99	11.29	140.06	153.28	21.42	0.00
185	19.70	179.70	25.00	19.55	14.01	32.69	10.99	144.36	157.71	21.99	0.00
190	19.70	184.70	25.00	19.55	14.31	33.39	10.69	148.66	162.13	22.57	0.00
195	19.70	189.70	25.00	19.55	14.61	34.09	10.39	152.96	166.55	23.15	0.00
200	19.70	194.70	25.00	19.55	14.91	34.79	10.09	157.26	170.98	23.72	0.00

DRUG ACTUAL ACQUISTION COST COMPARED WITH ADDITIONAL FEES FROM TRIAL PRESCRIPTIONS (AAC 1/5 TRIAL/ 4/5 BALANCE)
MINIMUM REQUIRED TO GENERATE COST-SAVINGS @ $2.00/TPP WITH 30%/$25 MAX. COPAY, TWO FEES

TOTAL DRUG COST	FEE IF NOT TRIALED	ABC COPAY (30%/$25)	PATIENT COPAY (30%/$25)	FEES IF TRIALED	PATIENT COPAY @ $2/ TRIAL	ABC COPAY FOR TRIAL	PATIENT COPAY FOR BAL.	ABC COPAY FOR BAL.	TOTAL ABC COPAY (13.4% INC./86.6% COM.)	SAVINGS (AVE. PER PRESCRIPT'N	ADDIT'NL COST TO PATIE
30	9.70	27.79	11.91	19.40	2.00	13.70	10.11	23.59	34.13	-6.34	0.20
35	9.70	31.29	13.41	19.40	2.00	14.70	11.31	26.39	37.55	-6.26	-0.10
40	9.70	34.79	14.91	19.40	2.00	15.70	12.51	29.19	40.98	-6.19	-0.40
45	9.70	38.29	16.41	19.40	2.00	16.70	13.71	31.99	44.40	-6.11	-0.70
50	9.70	41.79	17.91	19.40	2.00	17.70	14.91	34.79	47.83	-6.04	-1.00
55	9.70	45.29	19.41	19.40	2.00	18.70	16.11	37.59	51.25	-5.96	-1.30
60	9.70	48.79	20.91	19.40	2.00	19.70	17.31	40.39	54.68	-5.89	-1.60
65	9.70	52.29	22.41	19.40	2.00	20.70	18.51	43.19	58.10	-5.81	-1.90
70	9.70	55.79	23.91	19.40	2.00	21.70	19.71	45.99	61.53	-5.74	-2.20
75	14.70	64.70	25.00	19.40	2.00	22.70	20.91	48.79	64.95	-0.25	-2.09
80	14.70	69.70	25.00	19.40	2.00	23.70	22.11	51.59	68.38	1.32	-0.89
85	14.70	74.70	25.00	19.40	2.00	24.70	23.31	54.39	71.80	2.90	0.31
90	14.70	79.70	25.00	19.40	2.00	25.70	24.51	57.19	75.23	4.47	1.51
95	14.70	84.70	25.00	19.40	2.00	26.70	25.00	60.70	79.27	5.43	2.00
100	14.70	89.70	25.00	19.40	2.00	27.70	25.00	64.70	83.73	5.97	2.00
105	14.70	94.70	25.00	19.40	2.00	28.70	25.00	68.70	88.19	6.51	2.00
110	14.70	99.70	25.00	19.40	2.00	29.70	25.00	72.70	92.66	7.04	2.00
115	14.70	104.70	25.00	24.40	2.00	30.70	25.00	81.70	101.45	3.25	2.00
120	14.70	109.70	25.00	24.40	2.00	31.70	25.00	85.70	105.92	3.78	2.00
125	14.70	114.70	25.00	24.40	2.00	32.70	25.00	89.70	110.38	4.32	2.00
130	14.70	119.70	25.00	24.40	2.00	33.70	25.00	93.70	114.84	4.86	2.00
135	14.70	124.70	25.00	24.40	2.00	34.70	25.00	97.70	119.31	5.39	2.00
140	14.70	129.70	25.00	24.40	2.00	35.70	25.00	101.70	123.77	5.93	2.00
145	14.70	134.70	25.00	24.40	2.00	36.70	25.00	105.70	128.24	6.46	2.00
150	19.70	144.70	25.00	24.40	2.00	37.70	25.00	109.70	132.70	12.00	2.00
155	19.70	149.70	25.00	24.40	2.00	38.70	25.00	113.70	137.16	12.54	2.00
160	19.70	154.70	25.00	24.40	2.00	39.70	25.00	117.70	141.63	13.07	2.00
165	19.70	159.70	25.00	24.40	2.00	40.70	25.00	121.70	146.09	13.61	2.00
170	19.70	164.70	25.00	24.40	2.00	41.70	25.00	125.70	150.56	14.14	2.00
175	19.70	169.70	25.00	24.40	2.00	42.70	25.00	129.70	155.02	14.68	2.00
180	19.70	174.70	25.00	24.40	2.00	43.70	25.00	133.70	159.48	15.22	2.00
185	19.70	179.70	25.00	24.40	2.00	44.70	25.00	137.70	163.95	15.75	2.00
190	19.70	184.70	25.00	24.40	2.00	45.70	25.00	141.70	168.41	16.29	2.00
195	19.70	189.70	25.00	24.40	2.00	46.70	25.00	145.70	172.88	16.82	2.00
200	19.70	194.70	25.00	24.40	2.00	47.70	25.00	149.70	177.34	17.36	2.00

DRUG ACTUAL ACQUISTION COST COMPARED WITH ADDITIONAL FEES FROM TRIAL PRESCRIPTIONS
MINIMUM REQUIRED TO GENERATE COST-SAVINGS @ $2.00/TPP WITH 30%/$25 MAX. COPAY, ONE & ONE-HALF FEES (AAC 1/5 TRIAL/ 4/5 BALANCE)

TOTAL DRUG COST	FEE IF NOT TRIALED	ABC COPAY (30%/$25)	PATIENT COPAY (30%/$25)	FEES IF TRIALED	PATIENT COPAY @ $2/TRIAL	ABC COPAY FOR TRIAL	PATIENT COPAY FOR BAL.	ABC COPAY FOR BAL.	TOTAL ABC COPAY (13.4% INC./86.6% COM.)	SAVINGS (AVE. PER PRESCRIPT'N)	ADDIT'NL COST TO PATIE
30	9.70	27.79	11.91	14.55	2.00	13.70	8.66	20.20	31.19	-3.40	-1.26
35	9.70	31.29	13.41	14.55	2.00	14.70	9.86	23.00	34.61	-3.32	-1.56
40	9.70	34.79	14.91	14.55	2.00	15.70	11.06	25.80	38.04	-3.25	-1.86
45	9.70	38.29	16.41	14.55	2.00	16.70	12.26	28.60	41.46	-3.17	-2.16
50	9.70	41.79	17.91	14.55	2.00	17.70	13.46	31.40	44.89	-3.10	-2.46
55	9.70	45.29	19.41	14.55	2.00	18.70	14.66	34.20	48.31	-3.02	-2.76
60	9.70	48.79	20.91	14.55	2.00	19.70	15.86	37.00	51.74	-2.95	-3.06
65	9.70	52.29	22.41	14.55	2.00	20.70	17.06	39.80	55.16	-2.87	-3.36
70	9.70	55.79	23.91	14.55	2.00	21.70	18.26	42.60	58.59	-2.80	-3.66
75	14.70	64.70	25.00	14.55	2.00	22.70	19.46	45.40	62.01	2.69	-3.55
80	14.70	69.70	25.00	14.55	2.00	23.70	20.66	48.20	65.44	4.26	-2.35
85	14.70	74.70	25.00	14.55	2.00	24.70	21.86	51.00	68.86	5.84	-1.15
90	14.70	79.70	25.00	14.55	2.00	25.70	23.06	53.80	72.29	7.41	0.05
95	14.70	84.70	25.00	14.55	2.00	26.70	24.26	56.60	75.71	8.99	1.26
100	14.70	89.70	25.00	14.55	2.00	27.70	25.00	59.85	79.53	10.17	2.00
105	14.70	94.70	25.00	14.55	2.00	28.70	25.00	63.85	83.99	10.71	2.00
110	14.70	99.70	25.00	14.55	2.00	29.70	25.00	67.85	88.46	11.24	2.00
115	14.70	104.70	25.00	19.55	2.00	30.70	25.00	74.35	95.09	9.61	2.00
120	14.70	109.70	25.00	19.55	2.00	31.70	25.00	78.35	99.55	10.15	2.00
125	14.70	114.70	25.00	19.55	2.00	32.70	25.00	82.35	104.02	10.68	2.00
130	14.70	119.70	25.00	19.55	2.00	33.70	25.00	86.35	108.48	11.22	2.00
135	14.70	124.70	25.00	19.55	2.00	34.70	25.00	90.35	112.94	11.76	2.00
140	14.70	129.70	25.00	19.55	2.00	35.70	25.00	94.35	117.41	12.29	2.00
145	14.70	134.70	25.00	19.55	2.00	36.70	25.00	98.35	121.87	12.83	2.00
150	19.70	144.70	25.00	19.55	2.00	37.70	25.00	102.35	126.34	18.36	2.00
155	19.70	149.70	25.00	19.55	2.00	38.70	25.00	106.35	130.80	18.90	2.00
160	19.70	154.70	25.00	19.55	2.00	39.70	25.00	110.35	135.26	19.44	2.00
165	19.70	159.70	25.00	19.55	2.00	40.70	25.00	114.35	139.73	19.97	2.00
170	19.70	164.70	25.00	19.55	2.00	41.70	25.00	118.35	144.19	20.51	2.00
175	19.70	169.70	25.00	19.55	2.00	42.70	25.00	122.35	148.66	21.04	2.00
180	19.70	174.70	25.00	19.55	2.00	43.70	25.00	126.35	153.12	21.58	2.00
185	19.70	179.70	25.00	19.55	2.00	44.70	25.00	130.35	157.58	22.12	2.00
190	19.70	184.70	25.00	19.55	2.00	45.70	25.00	134.35	162.05	22.65	2.00
195	19.70	189.70	25.00	19.55	2.00	46.70	25.00	138.35	166.51	23.19	2.00
200	19.70	194.70	25.00	19.55	2.00	47.70	25.00	142.35	170.98	23.72	2.00

DRUG ACTUAL ACQUISTION COST COMPARED WITH ADDITIONAL FEES FROM TRIAL PRESCRIPTIONS (AAC 1/5 TRIAL/ 4/5 BALANCE)
MINIMUM REQUIRED TO GENERATE COST-SAVINGS @ 30%/TPP WITH 30%/$25 MAX. COPAY, $7.50 CONSULT'N FEE, CUSTOMARY DISP. FEE

TOTAL DRUG COST	FEE IF NOT TRIALED	ABC COPAY (30%/$25)	PATIENT COPAY (30%/$25)	FEES IF TRIALED	PATIENT COPAY @ 30% TRIAL	ABC COPAY FOR TRIAL	PATIENT COPAY FOR BAL.	ABC COPAY FOR BAL.	TOTAL ABC COPAY (13.4% INC./86.6% COM.)	SAVINGS (AVE. PER PRESCRIPT'N)	ADDIT'NL COST TO PATIE
30	9.70	27.79	11.91	17.20	4.05	9.45	7.86	25.84	31.83	-4.04	0.00
35	9.70	31.29	13.41	17.20	4.35	10.15	9.06	28.64	34.95	-3.66	0.00
40	9.70	34.79	14.91	17.20	4.65	10.85	10.26	31.44	38.08	-3.29	0.00
45	9.70	38.29	16.41	17.20	4.95	11.55	11.46	34.24	41.20	-2.91	0.00
50	9.70	41.79	17.91	17.20	5.25	12.25	12.66	37.04	44.33	-2.54	0.00
55	9.70	45.29	19.41	17.20	5.55	12.95	13.86	39.84	47.45	-2.16	0.00
60	9.70	48.79	20.91	17.20	5.85	13.65	15.06	42.64	50.58	-1.79	0.00
65	9.70	52.29	22.41	17.20	6.15	14.35	16.26	45.44	53.70	-1.41	0.00
70	9.70	55.79	23.91	17.20	6.45	15.05	17.46	48.24	56.83	-1.04	0.00
75	14.70	64.70	25.00	17.20	6.75	15.75	18.25	51.45	60.31	4.39	0.00
80	14.70	69.70	25.00	17.20	7.05	16.45	17.95	55.75	64.73	4.97	0.00
85	14.70	74.70	25.00	17.20	7.35	17.15	17.65	60.05	69.15	5.55	0.00
90	14.70	79.70	25.00	17.20	7.65	17.85	17.35	64.35	73.58	6.12	0.00
95	14.70	84.70	25.00	17.20	7.95	18.55	17.05	68.65	78.00	6.70	0.00
100	14.70	89.70	25.00	17.20	8.25	19.25	16.75	72.95	82.42	7.28	0.00
105	14.70	94.70	25.00	17.20	8.55	19.95	16.45	77.25	86.85	7.85	0.00
110	14.70	99.70	25.00	17.20	8.85	20.65	16.15	81.55	91.27	8.43	0.00
115	14.70	104.70	25.00	22.20	9.15	21.35	15.85	90.85	100.03	4.67	0.00
120	14.70	109.70	25.00	22.20	9.45	22.05	15.55	95.15	104.45	5.25	0.00
125	14.70	114.70	25.00	22.20	9.75	22.75	15.25	99.45	108.87	5.83	0.00
130	14.70	119.70	25.00	22.20	10.05	23.45	14.95	103.75	113.30	6.40	0.00
135	14.70	124.70	25.00	22.20	10.35	24.15	14.65	108.05	117.72	6.98	0.00
140	14.70	129.70	25.00	22.20	10.65	24.85	14.35	112.35	122.15	7.55	0.00
145	14.70	134.70	25.00	22.20	10.95	25.55	14.05	116.65	126.57	8.13	0.00
150	19.70	144.70	25.00	22.20	11.25	26.25	13.75	120.95	130.99	13.71	0.00
155	19.70	149.70	25.00	22.20	11.55	26.95	13.45	125.25	135.42	14.28	0.00
160	19.70	154.70	25.00	22.20	11.85	27.65	13.15	129.55	139.84	14.86	0.00
165	19.70	159.70	25.00	22.20	12.15	28.35	12.85	133.85	144.26	15.44	0.00
170	19.70	164.70	25.00	22.20	12.45	29.05	12.55	138.15	148.69	16.01	0.00
175	19.70	169.70	25.00	22.20	12.75	29.75	12.25	142.45	153.11	16.59	0.00
180	19.70	174.70	25.00	22.20	13.05	30.45	11.95	146.75	157.54	17.16	0.00
185	19.70	179.70	25.00	22.20	13.35	31.15	11.65	151.05	161.96	17.74	0.00
190	19.70	184.70	25.00	22.20	13.65	31.85	11.35	155.35	166.38	18.32	0.00
195	19.70	189.70	25.00	22.20	13.95	32.55	11.05	159.65	170.81	18.89	0.00
200	19.70	194.70	25.00	22.20	14.25	33.25	10.75	163.95	175.23	19.47	0.00

DRUG ACTUAL ACQUISTION COST COMPARED WITH ADDITIONAL FEES FROM TRIAL PRESCRIPTIONS (AAC 1/5 TRIAL/ 4/5 BALANCE)
MINIMUM REQUIRED TO GENERATE COST-SAVINGS @ $2.00/TPP WITH 30%/$25 MAX. COPAY, $7.50 CONSULT'N FEE, CUSTOMARY DISP FEE

TOTAL DRUG COST	FEE IF NOT TRIALED	ABC COPAY (30%/$25)	PATIENT COPAY (30%/$25)	FEES IF TRIALED	PATIENT COPAY @ $2.00 TRIAL	ABC COPAY FOR TRIAL	PATIENT COPAY FOR BAL.	ABC COPAY FOR BAL.	TOTAL ABC COPAY (13.4% INC./86.6% COM.)	SAVINGS (AVE PER PRESCRIPT'N)	ADDIT'NL COST TO PATIE
30	9.70	27.79	11.91	17.20	2.00	11.50	10.11	23.59	31.93	-4.14	0.20
35	9.70	31.29	13.41	17.20	2.00	12.50	11.31	26.39	35.35	-4.06	-0.10
40	9.70	34.79	14.91	17.20	2.00	13.50	12.51	29.19	38.78	-3.99	-0.40
45	9.70	38.29	16.41	17.20	2.00	14.50	13.71	31.99	42.20	-3.91	-0.70
50	9.70	41.79	17.91	17.20	2.00	15.50	14.91	34.79	45.63	-3.84	-1.00
55	9.70	45.29	19.41	17.20	2.00	16.50	16.11	37.59	49.05	-3.76	-1.30
60	9.70	48.79	20.91	17.20	2.00	17.50	17.31	40.39	52.48	-3.69	-1.60
65	9.70	52.29	22.41	17.20	2.00	18.50	18.51	43.19	55.90	-3.61	-1.90
70	9.70	55.79	23.91	17.20	2.00	19.50	19.71	45.99	59.33	-3.54	-2.20
75	14.70	64.70	25.00	17.20	2.00	20.50	20.91	48.79	62.75	1.95	-2.09
80	14.70	69.70	25.00	17.20	2.00	21.50	22.11	51.59	66.18	3.52	-0.89
85	14.70	74.70	25.00	17.20	2.00	22.50	23.31	54.39	69.60	5.10	0.31
90	14.70	79.70	25.00	17.20	2.00	23.50	24.51	57.19	73.03	6.67	1.51
95	14.70	84.70	25.00	17.20	2.00	24.50	25.00	60.70	77.07	7.63	2.00
100	14.70	89.70	25.00	17.20	2.00	25.50	25.00	64.70	81.53	8.17	2.00
105	14.70	94.70	25.00	17.20	2.00	26.50	25.00	68.70	85.99	8.71	2.00
110	14.70	99.70	25.00	17.20	2.00	27.50	25.00	72.70	90.46	9.24	2.00
115	14.70	104.70	25.00	22.20	2.00	28.50	25.00	81.70	99.25	5.45	2.00
120	14.70	109.70	25.00	22.20	2.00	29.50	25.00	85.70	103.72	5.98	2.00
125	14.70	114.70	25.00	22.20	2.00	30.50	25.00	89.70	108.18	6.52	2.00
130	14.70	119.70	25.00	22.20	2.00	31.50	25.00	93.70	112.64	7.06	2.00
135	14.70	124.70	25.00	22.20	2.00	32.50	25.00	97.70	117.11	7.59	2.00
140	14.70	129.70	25.00	22.20	2.00	33.50	25.00	101.70	121.57	8.13	2.00
145	14.70	134.70	25.00	22.20	2.00	34.50	25.00	105.70	126.04	8.66	2.00
150	19.70	144.70	25.00	22.20	2.00	35.50	25.00	109.70	130.50	14.20	2.00
155	19.70	149.70	25.00	22.20	2.00	36.50	25.00	113.70	134.96	14.74	2.00
160	19.70	154.70	25.00	22.20	2.00	37.50	25.00	117.70	139.43	15.27	2.00
165	19.70	159.70	25.00	22.20	2.00	38.50	25.00	121.70	143.89	15.81	2.00
170	19.70	164.70	25.00	22.20	2.00	39.50	25.00	125.70	148.36	16.34	2.00
175	19.70	169.70	25.00	22.20	2.00	40.50	25.00	129.70	152.82	16.88	2.00
180	19.70	174.70	25.00	22.20	2.00	41.50	25.00	133.70	157.28	17.42	2.00
185	19.70	179.70	25.00	22.20	2.00	42.50	25.00	137.70	161.75	17.95	2.00
190	19.70	184.70	25.00	22.20	2.00	43.50	25.00	141.70	166.21	18.49	2.00
195	19.70	189.70	25.00	22.20	2.00	44.50	25.00	145.70	170.68	19.02	2.00
200	19.70	194.70	25.00	22.20	2.00	45.50	25.00	149.70	175.14	19.56	2.00

DRUG ACTUAL ACQUISTION COST COMPARED WITH ADDITIONAL FEES FROM TRIAL PRESCRIPTIONS (AAC 1/5 TRIAL/ 4/5 BALANCE)
MINIMUM REQUIRED TO GENERATE COST-SAVINGS @ 30%/TPP WITH 30%/$25 MAX. COPAY, $7.00 CONSULT'N FEE, CUSTOMARY DISP. FEE

TOTAL DRUG COST	FEE IF NOT TRIALED	ABC COPAY (30%/$25)	PATIENT COPAY (30%/$25)	FEES IF TRIALED	PATIENT COPAY @ 30% TRIAL	ABC COPAY FOR TRIAL	PATIENT COPAY FOR BAL.	ABC COPAY FOR BAL.	TOTAL ABC COPAY (13.4% INC./86.6% COM.)	SAVINGS (AVE. PER PRESCRIPT'N)	ADDIT'NL COST TO PATIE
30	9.70	27.79	11.91	16.70	3.90	9.10	8.01	25.69	31.35	-3.56	0.00
35	9.70	31.29	13.41	16.70	4.20	9.80	9.21	28.49	34.47	-3.18	0.00
40	9.70	34.79	14.91	16.70	4.50	10.50	10.41	31.29	37.60	-2.81	0.00
45	9.70	38.29	16.41	16.70	4.80	11.20	11.61	34.09	40.72	-2.43	0.00
50	9.70	41.79	17.91	16.70	5.10	11.90	12.81	36.89	43.85	-2.06	0.00
55	9.70	45.29	19.41	16.70	5.40	12.60	14.01	39.69	46.97	-1.68	0.00
60	9.70	48.79	20.91	16.70	5.70	13.30	15.21	42.49	50.10	-1.31	0.00
65	9.70	52.29	22.41	16.70	6.00	14.00	16.41	45.29	53.22	-0.93	0.00
70	9.70	55.79	23.91	16.70	6.30	14.70	17.61	48.09	56.35	-0.56	0.00
75	14.70	64.70	25.00	16.70	6.60	15.40	18.40	51.30	59.83	4.87	0.00
80	14.70	69.70	25.00	16.70	6.90	16.10	18.10	55.60	64.25	5.45	0.00
85	14.70	74.70	25.00	16.70	7.20	16.80	17.80	59.90	68.67	6.03	0.00
90	14.70	79.70	25.00	16.70	7.50	17.50	17.50	64.20	73.10	6.60	0.00
95	14.70	84.70	25.00	16.70	7.80	18.20	17.20	68.50	77.52	7.18	0.00
100	14.70	89.70	25.00	16.70	8.10	18.90	16.90	72.80	81.94	7.76	0.00
105	14.70	94.70	25.00	16.70	8.40	19.60	16.60	77.10	86.37	8.33	0.00
110	14.70	99.70	25.00	16.70	8.70	20.30	16.30	81.40	90.79	8.91	0.00
115	14.70	104.70	25.00	21.40	9.00	21.00	16.00	90.70	99.55	5.15	0.00
120	14.70	109.70	25.00	21.40	9.30	21.70	15.70	95.00	103.97	5.73	0.00
125	14.70	114.70	25.00	21.40	9.60	22.40	15.40	99.30	108.39	6.31	0.00
130	14.70	119.70	25.00	21.40	9.90	23.10	15.10	103.60	112.82	6.88	0.00
135	14.70	124.70	25.00	21.40	10.20	23.80	14.80	107.90	117.24	7.46	0.00
140	14.70	129.70	25.00	21.40	10.50	24.50	14.50	112.20	121.67	8.03	0.00
145	14.70	134.70	25.00	21.40	10.80	25.20	14.20	116.50	126.09	8.61	0.00
150	19.70	144.70	25.00	21.40	11.10	25.90	13.90	120.80	130.51	14.19	0.00
155	19.70	149.70	25.00	21.40	11.40	26.60	13.60	125.10	134.94	14.76	0.00
160	19.70	154.70	25.00	21.40	11.70	27.30	13.30	129.40	139.36	15.34	0.00
165	19.70	159.70	25.00	21.40	12.00	28.00	13.00	133.70	143.78	15.92	0.00
170	19.70	164.70	25.00	21.40	12.30	28.70	12.70	138.00	148.21	16.49	0.00
175	19.70	169.70	25.00	21.40	12.60	29.40	12.40	142.30	152.63	17.07	0.00
180	19.70	174.70	25.00	21.40	12.90	30.10	12.10	146.60	157.06	17.64	0.00
185	19.70	179.70	25.00	21.40	13.20	30.80	11.80	150.90	161.48	18.22	0.00
190	19.70	184.70	25.00	21.40	13.50	31.50	11.50	155.20	165.90	18.80	0.00
195	19.70	189.70	25.00	21.40	13.80	32.20	11.20	159.50	170.33	19.37	0.00
200	19.70	194.70	25.00	21.40	14.10	32.90	10.90	163.80	174.75	19.95	0.00

DRUG ACTUAL ACQUISTION COST COMPARED WITH ADDITIONAL FEES FROM TRIAL PRESCRIPTIONS
MINIMUM REQUIRED TO GENERATE COST-SAVINGS @ $2.00/TPP WITH 30%/$25 MAX. COPAY, $7.00 CONSULT'N FEE, CUSTOMARY DISP. FEE (AAC 1/5 TRIAL/ 4/5 BALANCE)

TOTAL DRUG COST	FEE IF NOT TRIALED	ABC COPAY (30%/$25)	PATIENT COPAY (30%/$25)	FEES IF TRIALED	PATIENT COPAY @ $2.00 TRIAL	ABC COPAY FOR TRIAL	PATIENT COPAY FOR BAL.	ABC COPAY FOR BAL.	TOTAL ABC COPAY (13.4% INC./86.6% COM.)	SAVINGS (AVE. PER PRESCRIPT'N)	ADDIT'NL COST TO PATIE
30	9.70	27.79	11.91	16.70	2.00	11.00	10.11	23.59	31.43	-3.64	0.20
35	9.70	31.29	13.41	16.70	2.00	12.00	11.31	26.39	34.85	-3.56	-0.10
40	9.70	34.79	14.91	16.70	2.00	13.00	12.51	29.19	38.28	-3.49	-0.40
45	9.70	38.29	16.41	16.70	2.00	14.00	13.71	31.99	41.70	-3.41	-0.70
50	9.70	41.79	17.91	16.70	2.00	15.00	14.91	34.79	45.13	-3.34	-1.00
55	9.70	45.29	19.41	16.70	2.00	16.00	16.11	37.59	48.55	-3.26	-1.30
60	9.70	48.79	20.91	16.70	2.00	17.00	17.31	40.39	51.98	-3.19	-1.60
65	9.70	52.29	22.41	16.70	2.00	18.00	18.51	43.19	55.40	-3.11	-1.90
70	9.70	55.79	23.91	16.70	2.00	19.00	19.71	45.99	58.83	-3.04	-2.20
75	14.70	64.70	25.00	16.70	2.00	20.00	20.91	48.79	62.25	2.45	-2.09
80	14.70	69.70	25.00	16.70	2.00	21.00	22.11	51.59	65.68	4.02	-0.89
85	14.70	74.70	25.00	16.70	2.00	22.00	23.31	54.39	69.10	5.60	0.31
90	14.70	79.70	25.00	16.70	2.00	23.00	24.51	57.19	72.53	7.17	1.51
95	14.70	84.70	25.00	16.70	2.00	24.00	25.00	60.70	76.57	8.13	2.00
100	14.70	89.70	25.00	16.70	2.00	25.00	25.00	64.70	81.03	8.67	2.00
105	14.70	94.70	25.00	16.70	2.00	26.00	25.00	68.70	85.49	9.21	2.00
110	14.70	99.70	25.00	16.70	2.00	27.00	25.00	72.70	89.96	9.74	2.00
115	14.70	104.70	25.00	21.40	2.00	28.00	25.00	81.70	98.75	5.95	2.00
120	14.70	109.70	25.00	21.40	2.00	29.00	25.00	85.70	103.22	6.48	2.00
125	14.70	114.70	25.00	21.40	2.00	30.00	25.00	89.70	107.68	7.02	2.00
130	14.70	119.70	25.00	21.40	2.00	31.00	25.00	93.70	112.14	7.56	2.00
135	14.70	124.70	25.00	21.40	2.00	32.00	25.00	97.70	116.61	8.09	2.00
140	14.70	129.70	25.00	21.40	2.00	33.00	25.00	101.70	121.07	8.63	2.00
145	14.70	134.70	25.00	21.40	2.00	34.00	25.00	105.70	125.54	9.16	2.00
150	19.70	144.70	25.00	21.40	2.00	35.00	25.00	109.70	130.00	14.70	2.00
155	19.70	149.70	25.00	21.40	2.00	36.00	25.00	113.70	134.46	15.24	2.00
160	19.70	154.70	25.00	21.40	2.00	37.00	25.00	117.70	138.93	15.77	2.00
165	19.70	159.70	25.00	21.40	2.00	38.00	25.00	121.70	143.39	16.31	2.00
170	19.70	164.70	25.00	21.40	2.00	39.00	25.00	125.70	147.86	16.84	2.00
175	19.70	169.70	25.00	21.40	2.00	40.00	25.00	129.70	152.32	17.38	2.00
180	19.70	174.70	25.00	21.40	2.00	41.00	25.00	133.70	156.78	17.92	2.00
185	19.70	179.70	25.00	21.40	2.00	42.00	25.00	137.70	161.25	18.45	2.00
190	19.70	184.70	25.00	21.40	2.00	43.00	25.00	141.70	165.71	18.99	2.00
195	19.70	189.70	25.00	21.40	2.00	44.00	25.00	145.70	170.18	19.52	2.00
200	19.70	194.70	25.00	21.40	2.00	45.00	25.00	149.70	174.64	20.06	2.00